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THE HEALTH MAGAZINE

HYGEIA

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Marriage • Hodgkin's Disease
The Health of 40 Million People

25c • FEBRUARY • 1939

AN AMERICAN MEDICAL ASSOCIATION PUBLICATION

NEXT MONTH IN HYGEIA The Health Magazine

WANT A BETTER FIGURE?

Do you want to know how to adopt an easy, correct posture without strain? Most persons do—for that's the secret of a better figure! HYGEIA for March says, "While style for the designer lies in the lines of the garment, the secret of style for the wearer lies in her carriage." This article also offers a bonus because it shows how most aches and pains from tired feet or strained back and neck muscles vanish—once you take a few "posture kinks" out of yourself.

"BABY TALK" FOR CHILDREN?

It seems the more that psychologists discover about child psychology, the greater is the burden of parental responsibility. One of the many things they now emphasize is the child's early speech training. The March HYGEIA presents an article which outlines a plan for guiding the child's first faltering oral expression. It presents concrete things that parents can do, or avoid, in order to start their child toward success in later life.

TIPS ON HOME NURSING

You know how family routine is bound to be thrown topsy-turvy when someone is sick! But, caring for the sick member need not be a burden. The March HYGEIA brings a wealth of practical suggestions on home nursing. When carried out they can do much to make home life flow along almost normally. Here are some questions this article answers:

Do you know how to elevate the bed so that it will lessen the strain of waiting on the sick one?

Do you know how a draw sheet can greatly aid the patient and nurse?

Do you know how to keep the weight of the bed clothes off the patient?

Should a patient have much or little furnishings in his room?

Want To Be a Leader?

When the newspapers of the day are filled with the deeds of the leaders of every nation, it is good to read an article like "Adult Leadership" in the March HYGEIA. This brilliantly written article gives you a keen-minded physician's slant on how to put "leadership" in every adult life. You will find here a platform on which to improve your personality, your sense of humor, your mental composure, and your conception of what makes up the character of a leader—whether he leads a nation or an individual.

YOUR YOUNGSTER'S TEETH

Would you like a brief review of the precautions necessary to maintain a healthy mouth in babies and young children? Would you like to be forewarned about the things a mother should know about preparing for foundation teeth before her child comes? Then sit down with the March HYGEIA and in a few minutes' time you will have a good picture of "Foundation Teeth" and how to protect them.

Special Offer

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THE articles above are a sample of but one issue of HYGEIA. Every issue brings you many articles equally interesting and valuable. One of the articles above might be worth more to you than the entire six months' subscription price of $1.00. Then why not get this March issue and five succeeding, all for $1.00! (Regular price $2.50 per year.)

Pin a dollar bill to your letterhead, write your name, address, city and state and send it along. Your subscription will begin with the March issue.

What Is Occupational Therapy?

In olden days, mental patients were chained to the wall and a penny admission charged. Today, we try to cure the mentally sick as well as the physically sick. One of the new forms of treatment is "occupational therapy." HYGEIA for March carries a fascinating article about the use of this treatment in a modern mental hospital.

Introductory

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The Health Magazine

Also—

The March HYGEIA presents a plan for helping you retain much of the buoyancy of 21 while enjoying the mental poise and maturity which experience alone can give. Read "Adult—21-40." Many other excellent articles in this issue too!

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FEBRUARY 1939 Vol. 17 No. 2

HYGEIA

THE HEALTH MAGAZINE

Published and copyrighted, 1939, by the American Medical Association. Edited by Morris Fishbein, M.D.

NEXT MONTH

The March issue will take HYGEIA readers on a series of unusual winter tours—fireside fiestas:

JAMES J. SHORT, M.D., associate clinical professor of medicine, New York Post-Graduate Medical School, will conduct a brief excursion through that factory known as the human body, during the course of which he will debunk the "alkalize" racket. Dr. Short claims that it is time that the public abandon the "excess of acid" fantasy and stop worrying about having "too much acid."

DAVID SPENCE HILL, Ph.D., LL.D., will take HYGEIA readers on a vastly different tour, for he explores *"Psychologic and Other Underworlds."*

CLAUDE LILLINGSTON, M.D., goes far back into the past to begin his series on *"Mysterious Epidemics in History."*

RICHARD KOVACS, M.D., surveys spas, mineral springs and other health resorts both in this country and abroad and tells what they offer and accomplish. Dr. Kovacs, who is clinical professor of physical therapy, New York Polyclinic Medical School, will also outline activities of the American Medical Association in elevating and standardizing spa treatments.

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HYGEIA, The Health Magazine, is published monthly by the American Medical Association, 535 North Dearborn Street, Chicago, Ill. Yearly subscription price, $2.50; for foreign postage add 75 cents. Single copies, 25 cents. Volume 17, Number 2. Entered as second-class matter March 21, 1923, at the postoffice at Chicago, Ill., under the Acts of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1,103 Act of October 3, 1917, authorized March 21, 1923. All rights reserved.

.... a well shaped head

The shape of your baby's head . . . the strength and straightness of his back . . . these signs tell you if your baby's *bones and teeth are growing right!* To help build them strong and sound, your baby needs one special factor — Vitamin D. These winter months when sunshine does not supply enough, be sure to give him a dependable source — *Squibb's Cod Liver Oil!*

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"The Periodic Cycle"—a new booklet just off the press. Here is important information based on modern medical opinion.

FOR YOUNGER GIRLS

"What a Trained Nurse Wrote to Her Young Sister." A sympathetic booklet to be read by young girls before menstruation begins. Easy to understand. Accurate.

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Please send me ..... copies of "The Periodic Cycle." ..... copies of "What a Trained Nurse Wrote to Her Young Sister."

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535 N. Dearborn St., Chicago, Ill.

LETTERS FROM *Readers*

More About Mental Disease

To the Editor:

I would like to express my personal appreciation for the most excellent editorial appearing in the January issue of HYGEIA, entitled, "The Problem of Mental Disease in the United States."

The comprehensiveness with which this large problem has been grasped, the many factors entering into it, the old and modern avenues of treatments, the statistical evaluation: All these factors have been presented not only in an interesting but also most informative manner. It is a sad commentary upon the status of public understanding today that so many who are afflicted with mental illness are afraid to enter a mental hospital for treatment, and I feel that such magazines as HYGEIA are doing most important service in calling the attention of the public to the improvement in methods of treatment and facilities of the modern hospital. Not only in this instance but through the many articles appearing in HYGEIA I feel the public is gaining a more understanding grasp of a multiplicity of mental and physical types of illness, which require not only the expert treatment of the physician, but a background of sympathetic understanding by the patient.

JOHN EISELE DAVIS, M.A.
Perry Point, Md.

▲

Kingdom for a Horse

To the Editor:

Just read your concluding chapter on exercise, concerning horseback riding. I think the article is quite good, except that I was taught, and always taught my pupils, to dismount just the *reverse* of mounting, as most pupils cannot be expected to dismount army style, and dismounting facing the horse always leaves them unbalanced. Even sliding out of the saddle after bringing over the right foot seems preferable to dismounting facing the animal with the left foot in the stirrup.

I am afraid the illustrator of your article did not read your description of proper riding position, as the boy on page 1121 certainly hasn't got his hands low nor could he well hold his seat if the horse reared or ever started off. The girl's feet are improperly placed in the stirrup, while her horse is trotting with the forefeet and standing securely on his hind ones—or am I wrong?

Riding was my favorite pastime, and I wish more of the new riders were properly instructed before being turned loose on bridle paths.

B. W. MANDELSTAM, M.D.
Bridewater, Mass.

Many riders and teachers of riding favor mounting a horse from a position facing toward the horse's head. In that case dismounting might easily be exactly the reverse of mounting. Mounting from a position facing toward the rear of the horse is a method which is used and taught by many experts, largely because that method gives opportunity for a spring from the right leg and a pull on the saddle and horse's neck, which are practically impossible if one mounts facing toward the horse's head. If a rider were to vault into the saddle without the use of the stirrup, he would do so from the position suggested. He could not possibly vault into the saddle from the mounting position facing toward the horse's head.

The illustrator of the article possibly was not attempting to give accurate pictures but rather something of the cartoon nature.—ED.

Glad to Be of Service

To the Editor:

I plan to have a class on Child Care after the first of the year in my county. I was wondering how I may obtain any back issues of the HYGEIA with articles pertaining to children.

I would like to have them to refer to and also have my class read them. I have found them very helpful in my work.

I would like any posters and any ideas on conducting a good interesting class.

MAY BAILEY, R.N.
Evanston, Wyo.

▲

Valentine for Hygeia

To the Editor:

I read the HYGEIA regularly and thoroughly and find it interesting as well as very helpful in keeping one posted in up-to-date medical advice.

BERTHA M. GROTH
Grand Rapids, Mich.

▲

Is Our Face Red?

To the Editor:

Shame on HYGEIA to have a picture of a young mother, page 28 of the January 1939 issue, fixing her child's wraps holding an *open* safety pin in her mouth. Evidently Chevalier Jackson's preachments haven't been heeded or thought of by your artist and staff.

A. M. ROOKER, M.D.
Niagara Falls, N. Y.

▲

See Last Page

To the Editor:

To my mind and experience HYGEIA is an excellent magazine for the public in all its field. I have learned from lay people, who have found it in physicians' offices, that they shunned it because its name suggested something "sexy." Personally, I would enjoy a corner giving résumé of the articles in *The Journal*. (I believe this would be desirable for professionals only.) It should appeal to M.D.'s, for the patients' waiting-room table, and to nurses; but I do not believe it will appeal to the average layman on account of the omission of specifics.
REV. JOSEPH V. SOMES, J.C.L. (Sgd.)
Indianapolis, Ind.

Is your child the ONE OUT OF FIVE ?

ONE OUT OF FIVE children in school today has poor eyesight. Good lighting helps all children see better . . . and especially those with defective vision. Have *your* child's eyes examined regularly by a competent eyesight specialist.

FEW PARENTS REALIZE how easy it is to light-condition the places where children do homework. An I.E.S. Better Sight lamp with a 100 watt bulb supplies good light for studying.

IN SCHOOLS tests show that good light helps children do better work because they can see faster without straining their eyes. Do your children have enough light in the right places for easy seeing?

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100 WATT . . . for I.E.S. Better Sight table, bridge, and pinned-up lamps, garage, laundry. Now only . . . . . **15¢**

150 WATT . . . for light-conditioning your kitchen, game room, or home workshop. Now down to . . . . **20¢**

MAZDA THREE-LITE lamps for I. E. S. three-light floor lamps, dining room fixtures. 100-200-300 watt size, only **60¢**

See your dealer today. Ask him to make up a "Light-Conditioning Package" of right sized G-E bulbs you need for Better Light-Better Sight!

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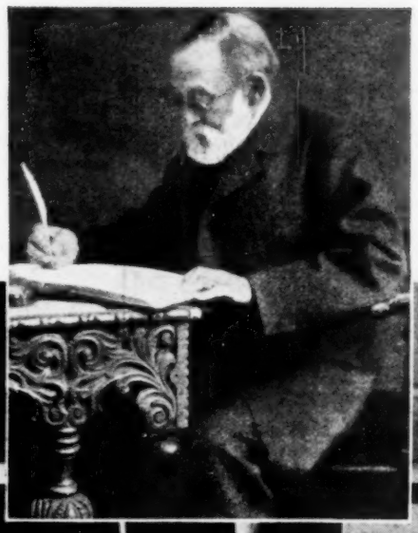


RUDOLF VIRCHOW WAS ONE OF THE FOREMOST CELLULAR PATHOLOGISTS THE WORLD HAS PRODUCED. HE DESCRIBED THE CELLULAR PATHOLOGY OF TUBERCULOSIS IN SUCH MINUTE DETAIL THAT FEW CHANGES HAVE BEEN NOTED TO DATE.

Cook County Hospital

MODERN PATHOLOGY IS SHOWN AS IT IS PRACTICED TODAY AT THE POSTMORTEM EXAMINATION. THIS PHASE IS OF VITAL SIGNIFICANCE IN TRAINING YOUNG PHYSICIANS. MOREOVER, IT BENEFITS HUMANITY BY DEMONSTRATING EXACTLY WHAT WAS WRONG WITH THE PATIENT AND HOW THE DOCTOR MAY IMPROVE HIS TREATMENT IN THE NEXT SIMILAR CASE.

POSTMORTEM EXAMINATIONS

FOR MANY YEARS, leading physicians and scientists throughout the United States have emphasized the importance of the postmortem examination, not only as a means for advancing medical science but also for the benefits this will confer in prolonging the lives of other human beings. The *Reader's Digest* for February provides strong support for postmortem examinations in a discussion, by Messrs. Pro and Con, of this highly important subject. Apparently Mr. Pro has all the best points on his side of the argument. He points out, for example, that postmortem examination is a stimulus to more scientific and complete diagnoses. The postmortem examination serves as a check on the competence and on the work of the physician. A postmortem examination, through detecting the source of an infection, may contribute to the public health by giving opportunity to a health officer to eliminate that source of infection. This has been proved repeatedly in relationship to epidemics and outbreaks of infectious diseases. Mr. Pro, for example, reports the case of a girl who died of severe infection with trichinosis. The postmortem examination disclosed this fact. A search was made to find the roadside stand from which the infested pork was purchased. Thus the danger was eliminated.

The postmortem examination, Mr. Pro emphasizes, is of vital significance in training young physicians. In the necropsy room they learn to see the end results of disease, as well as disease processes in various stages. This makes possible a vision in the mind of what goes on beneath the skin while the patient is still living. Moreover, it is significant, Mr. Pro points out, that our leading medical institutions are those with the highest percentage of examinations on the patients who die.

Now postmortem examination is not compulsory in this country. The decision is left to the family. Doctors do not favor too much compulsion. They prefer to depend on the enlightenment of the people who follow medical opinion because they understand and believe. When the public understands the importance of the autopsy, not only for the future health of the family concerned but also for the advantage to medical science, the people can be depended on to cooperate.

Reader's Digest has done a notable service in reaching its vast clientele with this message. In brief the message is, "Scientific investigation of the bodies of the dead brings dividends to the living."

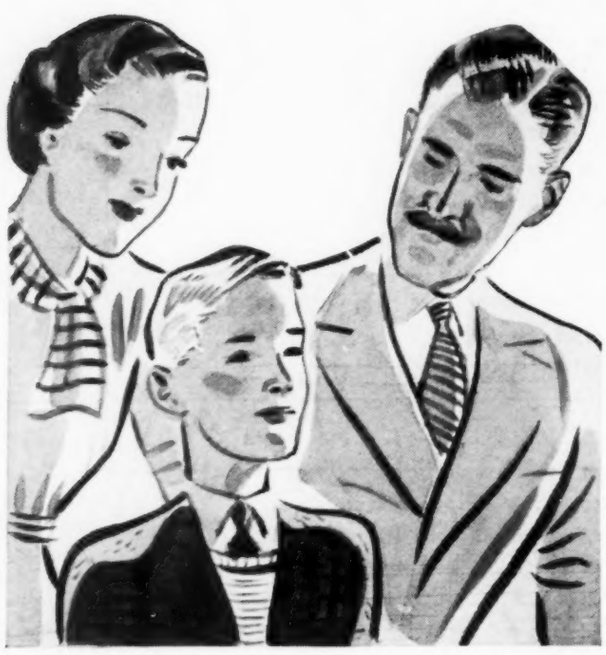
TRAINING for MARRIAGE

By FRANK HOWARD RICHARDSON

DO PARENTS ever wonder what success their children will have when the time comes for them to marry? No, as a rule not while these children are very young; it is only in the later years of adolescence that the question of marriage begins to assume any great place in the thinking of fathers and mothers. Yet even a slight acquaintance with the principles of modern psychology is enough to make us realize, if we think about it, how important a bearing even early childhood education will have on the success or failure of marriage.

It is not at all unreasonable to ask parents to begin to think, while their children are still in the runabout stage, of what they can do to make them good "marriage risks." For some of the worst liabilities that can possibly weight down a marriage have their origin in these early days of life.

But why should parents, with all they have to worry about in the way of immediate problems and difficulties, cross the bridge of marriage for their children so many years before they come to it? Why put so much importance on this distant event as to let it have an appreciable place in their thinking?



The chief reason is that success in marriage is almost the most important success that any one can achieve. The person who fails to make a go of his marriage finds it far more difficult to achieve success in any other phase of life. And failure in marriage is such a devastating thing that any success along business, social or financial lines does not compensate for it. So parents may well take thought early with regard to the marriage of their children.

Just what is meant by the term "success in marriage?" Does it imply that divorce is always bad? By no means. Divorce may seem the only way out of an impossible situation.

Whatever is said in defense of divorce, however, it will be admitted by every one that divorce is a recognition of failure so far as marriage is concerned. It may be far better to salvage a life by divorce than to stick to a tragic marriage; but it certainly is a confession of failure.

It is not the only failure, however. Unhappiness from disagreement that stops far short of divorce may spell failure just as surely, though not so dramatically, as when it goes on to the legal separation that is becoming so common these days. And it may be far more harmful emotionally to the whole family than when divorce affords a merciful termination to an impossible situation.

What then can parents do that will help to secure the benefits of happy marriage for their children? What preparations can we make with a view to this desired end?

Anything that helps to secure good health in a child increases the chances that his marriage will work out well. Ill health, either real or imaginary, is one of the heaviest handicaps that any husband or wife can bring to the union. Therefore the periodic health examination, the preventive inoculations and the school and college campaigns for the detection and cure of tuberculosis by means of the tuberculin test and the x-ray follow-up are all of great value in preparing our future adults for successful, happy marriage.

But a far more important contribution for home and family to make toward the future successful marriage of its members is the emo-

IF COMRADESHIP IS ALLOWED BETWEEN YOUNG PEOPLE OF BOTH SEXES AT THIS AGE, THEY ARE MORE NATURAL AND SENSIBLE WHEN IT COMES TO CHOOSING A MATE.

tional heritage they guarantee. And one of the best things parents can do for their children is to present them from their earliest childhood with the security and emotional stability that is afforded by their own happily married life.

It is well known that those whose parents have been happily married are slow to turn to the divorce courts as a solution for their own marital difficulties. They have learned from infancy to look on marriage as an absolutely permanent relationship, something to be maintained as a matter of course, just as blood relationships are permanent and without thought of severance.

The child of the broken home, on the contrary, constitutes the very worst sort of marital risk. He meets the little difficulties that are inevitable, not in terms of adjustments that must be made at any cost but rather as reasons for thinking of separation. In other words, the solution of his troubles by separation or divorce is the first thing that occurs to him;

while to his more fortunately circumstanced cousin with happily married parents, it is the last conceivable way out.

But parents can take a much more active role in safeguarding the emotional development of their children. A gradual and orderly passing from one stage to another is normal. But it can be interrupted by dwelling too long and intensely on any one stage of development, by trying to skip over it too lightly or too rapidly, or by investing it with too intense an emotional interest. Such an interruption is called an arrest, or a fixation; and when it takes place it hinders the normal unfolding of the emotional development that is so necessary for the consummation of happy marriage.

A most important preparation, even in the comparatively early years preceding the beginning of adolescence, consists in the proper management of play and association between the two sexes. Boys and girls who are allowed free and spontaneous comradeship with those of their own age but of the opposite sex are much more natural and unafraid when it comes to the question of mating.

To be sure, such play, like any other play, deserves careful supervision. The idea that children who are playing happily and freely are perfectly safe is by no means sound. True, they may not be annoying their parents! But this is not at all synonymous with safety or desirability. One precocious or sexually oversophisticated youngster can seriously complicate the emotional problems of all the group with which he associates; and when once he has started things along an undesirable line, it is too late to hope to restore the *status quo ante* by excluding him and belittling his activities.

Whether coeducation during the early years of puberty—that is to say, at the high school level—is desirable for the development of healthy attitudes toward sex is still a moot question in the minds of psychologists and educators. Some say that it is much better to allow free and natural association among boys and girls at this period than to attempt to curb it. Others are just as strong for the idea that boys as well as girls are much more likely to do good work if they are not constantly diverted by social incitements and preoccupations that are inseparable from education with so-called "mixed classes." Perhaps there is no general rule.

Parents who are seriously concerned with the importance of preparing their children for marriage will take care to make possible the tentative experiments that are essential as leading up to permanent and satisfying marriage. Many parents do not realize quite how important it is to entertain in their homes a group of young people from among whom suitable mates for their children may be chosen.

Failure to provide such experiences, as well as suitable marriage material, almost inevitably leads to one of two things. The sheltered, cloistered boy or girl either never feels at home with the other sex and so goes through life ill-at-ease and unmated because of an unnatural shyness, or else makes a most unsuitable marriage because of failure to make comparisons.

We are constantly seeing girls whose parents have been so successful in "shielding" them from what they considered undesirable social contacts that they elope with the first male who shows them the slightest bit of attention. And it is not at all unusual to see a carefully guarded boy fall for the most transparent machinations of a designing woman old enough to be his mother, just because he has never known what it was to stand on his own with girls of his own social status; and so he is swept off his feet by his first taste of feminine society.

A too liberal attitude on the part of parents may be every bit as dangerous to the true marital interests of their children. In a silly desire to further what they consider the "matrimonial chances" of their children, more parents than it is pleasant to think about are acquiescing in their participation in wild parties, necking, petting, drinking, smoking at an age that would not have been thought of even a few years ago and various other activities that their own better sense should veto without further thought.

When this is merely the reflection of the doings of middle-aged parents who have lost their own good sense and are unwilling to deny themselves for the sake of their example to their children, no advice will have much effect. Nor can one hope to move those parents who, socially insecure themselves and suffering from a marked sense of their inadequacy, hope to gain acceptance for their children in a "higher" set by permitting what they know is wrong. But there are parents who are honestly concerned as to whether they ought to allow these things because, as their children tell them, "all the best people" are doing them. These parents are entitled to know that they are not the only ones who have ideals for their children; and they should be told that if they will take the reasonable stand that their own good sense tells them they should in this matter of what they permit their children, they will make things much easier for the other parents of the group in which their children find their social pleasures. Such wise *(Continued on page 180)*

SLEEP

Natural and Artificial

By ROBERT S. CARROLL

HUMANITY has certainly long been at one in regarding sleep as "nature's great restorer." Yet in recent generations it has become an increasing problem for the nervous. Doctors and laymen alike have learned to expect the nervous individual to include insomnia among his complaints, frequently as the most important. Unhappily, his plaint is well founded.

In addition to the inevitable anxiety associated with this symptom, there stalks the appalling fear of insanity. Hundreds candidly tell themselves, "I must sleep or lose my mind." Other thousands of the still more fearful punish sleep as they morbidly struggle to evade the admission of this dread possibility.

The psychiatrist soon learns as he studies his patients how consistently they are obsessed with an odd medley of "half-baked" fears concerning their sleeplessness. His enlarged experience invariably adds a weird variety of abnormal, disturbing and dominating thought patterns as sufferers relate their tales of woe. Distressingly, this problem again and again becomes a question of divergent opinion between doctor and patient. The former knows that the depressed one is overestimating the danger of damage; the patient believes the doctor is out of sympathy with his suffering—that he does not "understand my case." The unrealized truth is that the patient does sleep more hours than he believes or reports, but the quality of

that sleep is so poor as compared with the normal that the sufferer wakens morally certain that he has "not slept a wink." The fault lies in the quality, not the quantity, of repose. Thus doctor and patient do not see eye to eye. This unfortunate divergence between the trained physician and the unhappy patient finds expression in other basic principles which underlie the question of sleeplessness.

Ninety-eight per cent of those suffering from depressions with insomnia will cling tenaciously to their belief that they must sleep to improve and that no one is accurate but themselves in estimating the amount of their sleep. The deeper truth abides: Sleeplessness is but a symptom. The "why" of it is the doctor's problem. He considers sleep as quite secondary to its objective, rest. Hence, early and repeatedly, he attempts to win the unfortunate from his obsession that he must sleep to the more vital principle, "You must learn to rest."

Ah, to rest! How few, indeed, of society's more highly organized—those most prone to develop nervous habits—were ever taught the saving art of rest.

Thus the physician faces, again and again, a poorly sleeping patient who does not know the first lesson in wooing repose. At this point may we not envision an illuminating simile of sleep? Let us picture it as a dove which one would feed. You have, perchance, stood in Venice in the piazza of St. Mark's. Fluttering shadows of many wings appeal. You invest a penny in the parched corn the venders are selling. Eagerly you attempt to attract the nearby birds —the more effort, the less success. Then the handful of corn becomes motionless. A dove—doubting, inquiring, confiding—perches on your wrist and feeds. Through repose alone we woo sleep.

To reemphasize fundamentals for a moment, let us know that rest is the objective of sleep. Learn to rest. Equally pertinent is the fact that when the neurotic learns to rest, to compose mind and body, sleep will care for itself. With added wisdom one remembers that sleep is never a true problem in any case until the ability to rest is lost.

Sleep's arch-enemy is pain; therefore the physical causes of wakefulness are innumerable. It is the dolt who slumbers undisturbed with an aching molar. Obversely, the more highly wrought the individual, the lower his threshold to pain. I was once aroused from my midnight rest to administer to a neurotic's mosquito bite. On the other hand, I have known normal individuals—masters of self—to sleep, undrugged, through the painful experience of a bursting eardrum, which registered only as a disagreeable dream. The line between pain and physical discomfort is vague. Our civilization has grown tenderly sympathetic with suffering. The Spartan disappears.

Of mental pain much less understanding consideration is shown. Such suffering is essentially subjective. The tale can never be told. Yet is not the telling endless? Again, mental pain and mental discomfort blend imperceptibly. We speak of anxiety, apprehension, various forms of mental tension, resentment, anticipation, remorse, sexual unrest, acute or even chronic enmity; any of these and scores of other adverse mental reactions may obstruct the closing of the portals of sleep; and restless hours, rigid hours, ravel further the "sleave of care."

The fear of sleeplessness is, then, an outstanding symptom of insomnia. Little thought is required to recognize the certainty with which this fear becomes mental tension. Thus the thing dreaded is created in the dreading.

What picture of the nervous victim of insomnia more perfectly illustrates the self-defeating mental basis of this disorder than that ridiculous, pathetic preparation that patients make throughout their waking hours to insure —wakefulness:

"I did get some sleep last night, and that will keep me awake tonight."

"I wonder if I will ever sleep again."

"*You* claim I *do* sleep. Well, I know I *don't*."

"I heard every tick of the clock last night."

Ad infinitum!

Can there be anything more illogical than this fearsome attention to scores of details that by bedtime the stage may be eloquently set for sleepless hours?

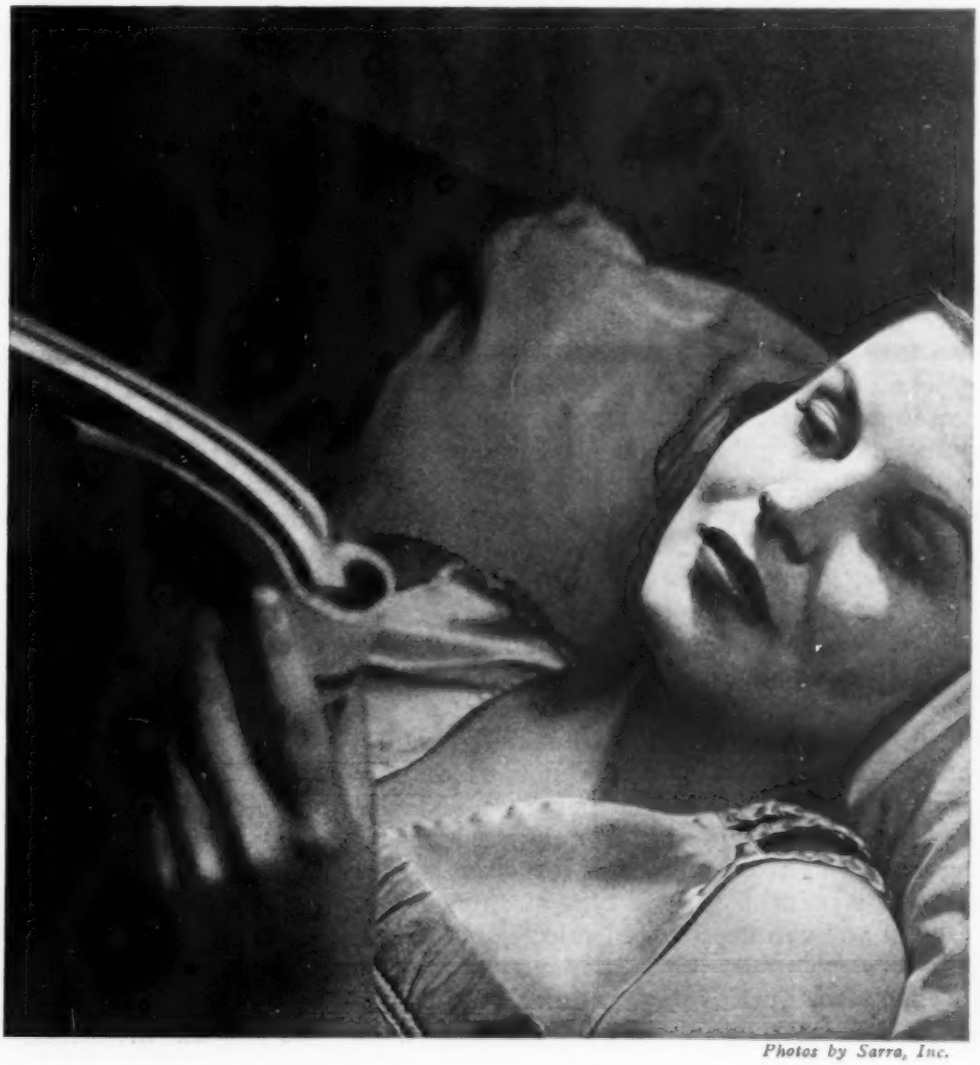
It is but one hundred years since science loosed the clutch of human pain. Then ether was first used for general narcosis. Little progress followed for half a century. In the eighties, cocaine revealed the possibilities of local anesthesia, while chloral was being used for serious insomnias, not infrequently with dire results. Since early in 1900 our laboratories have multiplied, bewilderingly, chemicals producing apparently normal sleep with less obvious harmful after-effects.

On this peak of "harmless" hypnotics sits the neurotic's Lorelei; the while, the modern physician sails the treacherous waters between the Scylla and Charybdis of impatient, frequently unreasonable victims of poor sleep. In great earnestness, having met all too warningly the insidious mental damage which unwisely used and "harmless" drugs have produced, I speak

with concern. Nor may the medical profession be unduly influenced by the highly organized sales pressure propaganda of chemical profiteers. Sleep-producing drugs should be taken only as prescribed by the reputable physician who recognizes the seriousness of the situation, the modernly wise doctor who knows that drug relief from pain is never bought without definite—even though microscopic—nerve or nerve-sheath damage. Such a medical man will never assure the patient that the drug given will not do him any harm, should the sufferer prescribe it for himself. Probably no medication will ever come to light capable of producing the peace of unconsciousness without some central nerve damage. Only a potent chemical produces artificial sleep when "nature's great restorer" is withheld.

"The death of each day's life"—so Shakespeare pictures sleep. While I have spoken in earnest warning against drug-produced sleep, I would as helpfully refer, and with equal weight, to the significance of sleepless nights. Most highly organized persons inevitably encounter situations which set their minds agallop, and a restless night follows. This may be of no more importance than scorched toast. After a second night of tossing, one should prepare to get one's mental household in order. But I reserve definite warning for the rare occasion of three consecutive sleepless nights. Now to your physician!

It is possible that simple helpfulness will be forthcoming: a change in diet, a lighter evening meal, a glass of hot nourishment just before retiring, a relaxing neutral bath, a heartening feeling of confidence in the trained human understanding of your doctor. In the absence of serious nervous threat there are those who have developed the insomnia habit. These commonly fall asleep at once, to awaken seemingly without cause and woo sleep in vain for several hours. For all these, indeed, for other types of the sleepless, a wiser philosophy is attained when the situation is transformed from anxiety into, may we say, even satisfaction. Wisely, these individuals will make use of these otherwise wasted hours. On *(Continued on page 178)*



IF YOU HAVE DEVELOPED THE INSOMNIA HABIT, YOU'LL BE WISE TO MAKE USE OF THAT OTHERWISE WASTED TIME. STOP FRETTING AND TOSSING, FORGET THAT YOU "JUST CAN'T GET TO SLEEP," AND TURN YOUR ATTENTION TO AN HOUR'S READING AND NOTE TAKING.

Photos by Sarra, Inc.

YOUR VOICE

By CHEVALIER JACKSON
and CHEVALIER L. JACKSON

OTHER THINGS being equal, the salesman with the best voice makes the most sales. The school teacher with the best voice has the best chance of getting the position as well as of successfully filling it; the teacher who loses her voice loses her position—and this is not a rare misfortune. Obviously, the vocalist, actor, lecturer and lawyer need a good voice; and, indeed, there are few occupations in which a good clear way of speaking is not an asset. Next to a pleasant smile and a polite manner, perhaps few things contribute as much toward making friends as kind words pleasantly spoken. A harsh voice is a hindrance. Yet how little attention is paid to acquiring a pleasing quality of voice! And simply no attention at all is paid to the care of the larynx, which is fundamental to normal voice production.

A pleasant voice ordinarily is considered as having "just happened." It is true that some persons have naturally a pleasing voice; others have naturally a disagreeable voice; but it is also true that either could greatly improve the effect on the hearer by careful, intelligent attention in early life. The development of pleasing enunciation should be part of every child's education. Of course every one knows the curriculum of things that must be taught is already overloaded far beyond the available time limit. But it is not necessary to add another study to the already too long list. Good example and a few words of admonition would go a long way to improve the speaking voice of the young. The great trouble is that no one seems to realize the necessity for developing pleasant speaking tones. A cultured voice is not necessarily pedantic. In a very young person a pedantic voice is as unpleasant as a mumble; yet in teaching a child to avoid mumbling it is unnecessary to teach a painfully stilted type of enunciation. "Gonna go" can be changed into "going to go" without developing painful pedantry. There is no excuse for the slovenly "gotta go"; "must go" is quite as easy to say. The gruntlike sounds that even high school pupils commonly use as substitutes for words are deplorable and to unaccustomed hearers ridiculous.

All this has a bearing on the care of the larynx. Lack of distinct, clear enunciation is one of the chief reasons for vocal abuse. Most people when not understood over the telephone or in conversation force the voice, instead of repeating clearly, not forcibly.

Nearly all great speakers, great singers and great talkers, if they continue long enough, lose their vocal power. They do not become utterly voiceless; but the voice weakens and roughens until the power and quality that gave them fame is forever lost. Coming to the average person, whose occupation as a teacher, clergyman, doctor, lawyer, salesman, administrator or merchant requires much use of the voice, nearly all suffer great inconvenience and actual monetary loss from attacks of hoarseness and impaired voice. A good voice is an asset in any kind of occupation.

Sad to relate, however, one finds everywhere the most foolish, reckless disregard of all care. Among the singers with a priceless gift the larynx is frequently abused in a way that can be paralleled only by hitting a Stradivarius violin with a hammer. The singing of the professional vocalist is, at best, an unnatural use of the larynx. The singer puts a great strain on the larynx in extending the extreme limits,

especially the upper limit, of the scale. Then there is the extra force of grand finales. Furthermore, there is too much practice and rehearsal for the good of the larynx. But perhaps the worst of all abuses of the larynx by the professional vocalist as well as the lecturer, public speaker, clergyman, teacher or salesman is the habit of talking between times; in fact most of them talk all the time they are awake. So the larynx gets no rest. Other common forms of vocal abuse are talking too loudly into the telephone, talking in noisy places, such as in the street, in rooms where open windows admit the street noise, in factories where machinery is running, in offices where typewriters are clicking, in automobiles, railroad trains or, worse yet, subway trains. Unfortunately our civilization has become more and more noisy. Efforts to abate the din are based on the annoyance of noise and its injurious effect on the nervous system. Equally important is the injury to the larynx of those who force their voices to be heard above the noise. Shouting and cheering at football games, like forceful singing and speaking, often cause little hemorrhages on the vocal cords; these hemorrhages develop into the vocal nodules and various kinds of tumors that ruin the voice unless removed. Any talking at all during an attack of acute laryngitis constitutes vocal abuse.

A common form of vocal abuse is in talking to persons with impaired hearing. It is particularly hard on the larynx of those who by reason of family or business relations are compelled to be constantly with the deaf person.

Alcoholic beverages in any form and in any quantity, great or small, are injurious to the larynx. It is not a matter of intoxication; the injury is due to the physiologic effect of alcohol in dilating the capillaries of the mucous membrane lining the larynx. One drink of any alcoholic beverage will do this and if repeated will impair the finest qualities of the voice. Any one with a hope of a vocal career should be a total abstainer. It is true that many great vocalists have been drinkers; but it is also true that these vocalists have impaired their voices and shortened their respective careers by drinking. The "whisky throat" like the "grog blossom" almost completely disappeared during the prohibition period. Now that the people are again learning to drink, a new crop of these alcoholic sequelae will appear in due course. The "whisky throat" is the name that was given to the huskiness that came from continuous engorgement of the capillaries of the larynx. But this continuous excessive use of alcoholic beverages is not necessary to produce injurious effects on the larynx. A few drinks a day will risk eventual impairment of the finest qualities of the speaking as well as of the singing voice.

Tobacco smoke is injurious to the larynx. It is not the nicotine but the deleterious nature of an oil which is produced by the destructive

distillation of the tobacco when smoked. This oil is the chief ingredient in tobacco smoke and is an injury to the larynx and its vocal cords, even if a person is only breathing the heavily smoke-laden air of a room without actually smoking himself. In answer to the often asked question, "Is it injurious for women to smoke cigarets?" it may be said "Yes, and for men too." A little tobacco smoke will do a little harm to the larynx; much will do great harm.

It is much easier to say what should be done about it than to get people to follow the advice. "Stop talking" is the most important admonition for prevention as well as for cure of most diseases of the larynx. It is almost impossible to get any one to follow this rule. Most people will talk at length on the subject of why they are not talking. It would almost seem easier for a camel to go through the needle's eye than for a habitual talker to remain silent. As we do not appreciate the water till the well runs dry, just so we do not appreciate the privilege of talking until laryngeal disease necessitates a regimen of silence.

Persons whose occupation requires much use of the voice, even the ordinary speaking voice, should remain silent during the remainder of their waking hours. With an eight-hour working day this would give sixteen hours out of the twenty-four for vocal rest and even more over the week-end.

For the vocal abuse of those who must talk to deaf persons there are ways to minimize the injury to the larynx. The speaker should get as close to the ear of the deaf person as possible and should speak clearly and distinctly. The deaf person should learn lip reading. Additionally, those afflicted should utilize one of the mechanical aids to hearing.

Singers, actors, lecturers, attorneys, men in public life, clergymen and other professional voice users should realize that the voice is their chief asset and, as such, should not be squandered in ordinary conversation. It would be well for them also to make it a rule to follow each severe and prolonged use of the voice with a period of silence. The silence should be of a duration proportionate to the length and severity of the abusive task. One of the greatest difficulties encountered by the professional speaker is the calamitous character of a canceled engagement. "The show must go on" is the fundamental ethic of all who appear before an audience. A business man's appointments ordinarily concern a few people, and another appointment can usually be made. A singer's cancelation may disappoint a thousand or more. Moreover, to fail because of laryngeal trouble may start rumors damaging to a vocalist's reputation. The consequence is that singers and other professional users of the voice feel they cannot take the rest that is especially necessary during acute respiratory infections, "a cold," influenza, grip or acute laryngitis. Many a vocal career has been wrecked by professional use of the voice during such acute inflammatory conditions. No one should use his voice during acute disease of the larynx.

Halls with poor acoustic qualities are severe on the larynx. Similarly, public speaking or singing outdoors involves great risk of ruining the voice. The speaker or singer does not get reflected back to him the sensation that he is "filling the hall." Consequently more and more force is put into phonation until laryngeal muscles are strained or capillary blood vessels on the cords are ruptured. Many a campaign speaker and many an evangelist has ended a tour with a hopelessly ruined larynx. The least serious consequence that such laryngeal abusers have reason to expect is the formation of a vocal nodule or a blood tumor on the vocal cords that will require operative removal.

Caution in the outdoor use of the voice concerns not only the public speaker and singer but every baseball and football enthusiast as well. If one has no self restraint in vociferating, one should take to the game a horn or burglar rattle or some other form of noise maker. The human larynx is too beautiful, too useful and too delicate an instrument to be used for mere creation of din. A combination of liquor and cigarets along with the outdoor shouting is especially hurtful to the larynx.

Those who are overtaxing their larynges by an improper manner of speaking into the telephone should learn to keep the telephone transmitter close to the lips, to talk in a low clear tone, bringing out distinctly all syllables, especially the ultimate. If the person at the other end of the line evidently does not hear what has been said, do not shout; keep the transmitter close to the lips, and repeat more clearly and distinctly—not more loudly. Slapping the transmitter with the hand may help.

Mothers who shout or scream at their children are abusing the larynx and setting the children a bad example in vocal abuse as well as in manners.

Any one having hoarseness, even though slight and not continuous, should see a physician for advice; but no one should expect to find a remedy that will obviate the necessity for rest of the larynx. Persistent or intermittent hoarseness calls for examination by a physician to exclude cancer of the larynx.

HOSPITALS on WINGS

By S. R. WINTERS

NCU! NCU!—the SOS call habitually used by ships at sea needing urgent medical aid flashes over the air waves, and immediately the personnel of Uncle Sam's Coast Guard is galvanized into action. In a short space of time a flying hospital boat is winging its way toward the distressed vessel. This NCU, meaning "any Coast Guard unit," is readily recognized by all maritime persons as the emergency call for medical assistance, and such a request is given right-of-way until the flying hospital is on its mission of mercy out to sea.

Constructed primarily for rescuing the perishing at sea, these flying hospitals were first introduced by the United States Coast Guard a few years ago. Five seaplanes, known as flying lifeboats, began their heroic task of saving human life from the perils of the sea, and so successful and outstanding have their exploits become that the number has been gradually increased until at present twenty-one planes are devoted exclusively to this commendable practice. One of the newest PH-2 seaplanes was duly initiated on May 23 when it came to the rescue of the passengers and pilot in the plane that crashed near Floyd Bennett Field on that day. At 3: 10 p. m. the seaplane V-113, returning to the station ramp, sighted a plane at low altitude out of control off the northeast corner of the field. When it crashed in the water, the V-113 was quickly taxied into position and, as a 30 mile an hour southeast wind was blowing, was anchored a short distance to windward of the wrecked plane, which had crashed in about 4 feet of water. A member of the rescuing crew went over the side with a life preserver and line and brought the pilot and passengers aboard. During the flight to an emergency hospital, first aid was administered, and in order to expedite the transfer of the injured persons to the shore, the plane was again anchored and dropped back on the beach, as the strong tailwind made it impossible to taxi up the ramp.

All aid rendered, however, is far from as simple as in this disaster. There was the case, for instance, of the message caught by a plane taking off from the Gloucester (Mass.) Coast Guard Air Station, bound for Washington. This time the NCU came from a trawling steamer located 170 miles out to sea. This vessel asked immediate medical help for a member of her crew whose fingers had been torn off by a steam windlass. The seaplane promptly put out to sea, plowed doggedly through a heavy fog, located the steamer and removed the injured man. A radio message to the Commander of the Coast Guard division at Boston brought an ambulance to the landing field, and the victim was safely in a hospital in little more than two hours after the signal had been received.

On a little island near Cape Hatteras lives a grateful 18 year old boy who owes his life to one of these flying lifeboats. At Cape May, New Jersey, late one afternoon in November, a message was received stating that near the Ocracoke Coast Guard Station a civilian was slowly bleeding to death from an ax wound in the knee. The local doctor was unable to handle the case, and the nearest hospital was too far away to permit saving the boy's life.

ONE OF THE ELEVEN RD TYPE DOUGLAS AMPHIBIANS WITH LANDING WHEELS ATTACHED. THESE, LIKE THE OTHER COAST GUARD AIRCRAFT, ARE SO CONSTRUCTED AS TO MAKE LANDINGS ON ROUGH SEAS POSSIBLE.

Could a Coast Guard plane be made available? Darkness was rapidly approaching, and the weather was threatening and hazy. To answer the call meant a 250 mile night flight with a blind and dangerous landing after dark in the swampy, shallow, log-strewn waters adjacent to Ocracoke Island, below Cape Hatteras, North Carolina. Nevertheless, the serious condition of the unfortunate boy warranted this altogether hazardous flight. Within twenty-five minutes the pilot took off in the CG-129 with an emergency kit. Three hours later he landed in the sound off Ocracoke Island. Here he ran into trouble, as the plane ran aground in the darkness on a mud flat among fish stakes about half a mile offshore from the air station. More time lost. Would he make it? Hurriedly, men rowed out to the plane and worked it loose, only to have it grounded again while taxiing it toward shore. Finally it was refloated and taxied into deep water, although still surrounded by fish stakes, mudflats and unlighted buoys. Armstead T. O'Neill was brought aboard on a stretcher, having been injured seven hours before while chopping wood. An artery in his left leg was severed below the knee. He was bleeding profusely; but first aid was administered as the plane took off in the darkness, and within one hour of flight, the patient was placed in a waiting ambulance at the Naval Air Station, Hampton Roads, Virginia. The CG-129 had traveled 425 miles in darkness and bad weather, but a human life had been saved.

Stories similar to these are endless but are all in the day's—and night's—work to the daring pilots of these mercy ships, and they take them in their stride. As a general thing the assistance given on board the flying boats is in the nature of first aid work, such as could be accomplished in the home by a physician. No actual surgery has ever been attempted. In cases of severe pain, however, an anesthetic can be administered on the flight to an emergency hospital. The use of Coast Guard aircraft in humanitarian work for the benefit of the public at large becomes more apparent as time goes on. At present there are four FLB, or flying lifeboats, in use in addition to eleven RD amphibians and six of the new PH-2 seaplanes, twenty-one in all. The seaplanes are equipped with twin 850 horsepower Wright cyclone engines; they have a range of 2,000 statute miles, a top speed of 167 miles an hour and a cruising speed of 95 miles an hour. They carry a crew of four; and twenty passengers may be accommodated in an emergency. The planes are constructed so as to make landings on rough seas possible. This feature, together with their range and high speed, is a requirement of the Coast Guard for rendering assistance to persons and vessels in distress offshore. Each boat is equipped with a collapsible lifeboat and with stretchers for removing the injured from ships.

Eight air stations are maintained at various points on both coastlines as well as on the Gulf of Mexico, and at least one plane is constantly standing guard at each of these stations, ready to take off at a moment's notice in response to NCU calls. Last year, 154 disabled vessels were located and 185 emergency patients were transported. In addition to these services the planes endeavor to warn people of impending danger, and they assist extensively during floods and other disasters by transportation of serums and biologic supplies and scouting of the afflicted areas for purposes of operation planning.

THE LIFEBOAT FROM THE S. S. SAMUEL Q. BROWN, BEING LOWERED WITH A SERIOUSLY BURNED MAN, TO BE TRANSFERRED TO THE WAITING COAST GUARD PLANE FOR SPEEDY TRANSPORTATION TO A SHORE HOSPITAL.

THE INJURED PATIENT ARRIVES ON LAND, FIRST AID HAVING BEEN PERFORMED ON THE WAY FOR THE IMMEDIATE RELIEF OF PAIN. HE IS NOW TRANSPORTED IN A WAITING AMBULANCE TO A NEARBY HOSPITAL FOR TREATMENT.

"My Child Simply WON'T Eat!"

By RUTH PECK McLEOD

THERE ARE various causes contributing to a child's lack of appetite; among them are certain correctable physical defects and poor habits of sleeping and eating. All young growing children should have vigorous appetites. They should go after their meals enthusiastically, not be finicky and fussy about their food.

One city woman with a delicate child who had a lagging appetite asked a rural mother with eight sturdy boys how she ever catered to all her children's likes and dislikes. She replied, "My only problem is to cook enough to satisfy their appetites. They eat anything I set before them."

A similar sentiment is expressed in a statement from the book "Children of the New Day" by Glover and Dewey:

Once a famous Russian dancer was asked what diet she advised for her young pupils in order to build beautiful, supple bodies. Her answer was: "I cannot make an artist of anyone who does not eat so well that she need never think of what she eats."

Lack of sleep is a prime factor in killing appetites. The child who retires late, rises late and has barely time to rush to school before the tardy bell rings frequently ignores breakfast. In this disturbed state of "scrambling" to school he does not have time to find out whether or not he is hungry. Sometimes he will grab some cookies or doughnuts to eat on the way instead of the warm breakfast and pasteurized milk which he needs to start the day right.

Lydia J. Roberts of the University of Chicago in her interesting book "Nutrition Work with Children" has this to say concerning the effect of loss of sleep on the appetite:

> A continual shortage of sleep whether cut from the evening or morning end of the day's quota may adversely affect the nutrition of a child in at least two ways: During sleep the body processes slow down and the need for energy is the least the body can ever require; awake and active, the needs are greatly increased. Thus every hour of awake activity stolen from the sleep quota increases the fuel needed by the body. Unless more food is eaten to compensate, the body tissues are burned and a loss of weight follows. But in addition, loss of sleep results in a hyperirritable nervous system; and nervous tension still further increases the food needs, while at the same time it usually diminishes the desire for food. Thus a lack of sleep tends to produce a nervous irritable undernourished child.

Child specialists assert that the mothers of the majority of children brought in for inspection report that the child has no appetite. These children in almost every case are from the better homes. Frequently the child with spending money in his pocket is the victim of poor appetite because he buys whatever sweets look good to him at the nearby drug store or confectioner's. Sweets are appetite killers and should never be consumed on an empty stomach; rather, they should be eaten only at the end of a meal.

While modern science has demonstrated that in many cases five or six meals are better than three, the restriction has been that only milk and fresh fruit be served at the "extra" repasts. Similarly in the case of children's "piecing" between meals, milk and fruit are the only foods that can be served safely at this time without destroying the appetite.

Regularity in habits is one of the therapeutic measures necessary in correcting the poor appetite. First of all, the day should be started the night before. The child should go to bed early and sleep by himself in a room where there is adequate fresh air but no drafts directly on him. He should get up at an hour that will provide sufficient time to wash his face and hands or even take a bath if he is accustomed to morning bathing. His toilet habits must not be disregarded, or constipation will result; and that is certainly an appetite killer. Cleaning the teeth is vitally important, especially in the case of decayed teeth or diseased tonsils, as a bad taste in the mouth will kill any one's desire for food. A good substantial warm morning meal with plenty of pasteurized milk should be set before the child. Hot foods will usually make the meal more digestible, and that is highly desirable, for the child with the lagging appetite is frequently the one with the feeble digestive tract.

If the child is underweight he should have milk and fruit in midmorning; then at noon he needs a substantial meal of hot vegetables, one starchy and one green vegetable, a raw fruit salad and plenty of pasteurized milk served either as a beverage or in creamed dishes or soups.

In midafternoon instead of raiding the pantry or patronizing the nearby confectioner for sweets he should enjoy a lunch of milk and fruit served at a definite time. Nibbling constantly at food destroys the appetite, as it keeps the stomach partially full and working all the time.

In the evening the child should have his meal at a regular hour, whether or not all the other members of the family are home; otherwise he will indulge in eating between meals and will want little or no food when he comes to the table.

Fresh fruits and green vegetables are rich in vitamin C, which stimulates the appetite and is also necessary for the development of the teeth. Raw carrots, lettuce, cabbage, orange juice, tomato juice and similar foods are rich in this valuable vitamin. Simple foods, milk, fresh fruits and vegetables are much to be preferred to the rich pies, pastries and fried foods. Frequent changes in the menu stimulate the appetite. Serving the food temptingly will often persuade the child to eat.

Travel upsets so many children because it interferes with the accustomed routine and causes them to lead irregular lives; the adults delay meals so they can "make" a certain city before dark. As a result both children and grown-ups feel the effects of disturbed eating, sleeping and toilet habits. It seems strange that tourists seeking pleasure should inflict so many hardships on themselves and their children by ignoring rules of hygiene regarding eating and sleeping. As a result some members of the fatigued family become ill, and the pleasure of the trip is lost.

One vital factor in helping appetites to step up and stay up is to avoid arguments or heated discussions at the table. Manners should be taught; but the children should not be chided constantly about the way they sit or hold their forks or spoons.

The family troubles should not be aired at the table, as for instance the fact that the mortgage is due and there is no money to pay it, or that Johnny got an F in arithmetic and will probably fail. Nothing kills the desire for food or interferes with digestion so much as an intense

emotional state. Kugelmass in his recent book "Growing Superior Children" says of this situation:

> Emotional states markedly interfere with the appetite. They play havoc with the child even more than the adult. A quarrel before meal-time arrests the flow of his digestive juices, as does worry, excitement, anger, anxiety or disappointment.

Pleasant, leisurely conversation with now and then a funny story makes for the child's physical well-being at this time. The youngster with no appetite is frequently a nervous and sensitive child; so he is easily affected by what is said. Some advocate story telling at the dining table to induce a child to eat; but unless the tale is somewhat emotional it lacks interest, and if it does excite the child his digestion may be upset. Therefore it may be best to rely on ordinary conversation during the meal.

One well recognized reason for a spoiled child's not eating is found in his desire to be the center of dramatic scenes. He refuses to eat because he likes to have Grandmother worry about his not eating his oatmeal and Father about his not touching his spinach and Mother about his not drinking his milk. The more they all lament the fact that he will not eat this or that, the more determined he will often be to play the leading role in such a scene. It is never well to talk about a child's poor appetite in his presence. Many pediatricians do not allow any symptoms to be discussed before a child and particularly the one regarding lack of appetite.

Prejudices which adults have against certain foods are easily transmitted to the children. Charles Anderson Aldrich in his enlightening book "Cultivating the Child's Appetite" cites an example of this:

> Adults should be careful to eat as they wish their children to eat. Setting a good example is perhaps our most valuable method of education. I am told of a family of six children none of whom could or would drink milk. Investigation showed that the mother never drank it. In fact she frequently and very proudly told her friends "how terribly sick milk made her." Subsequent events showed milk was not unpalatable or harmful to any of the children. They refused it because of the influence of the mother.

Usually the child with no appetite is highly nervous and easily overexerts himself. He will run the hardest, scream the loudest, remain in a state of high tension during his entire play. Such a youngster will require careful curbing, or he will be too exhausted at the end of play to eat. If this type of child can be persuaded to lie down or relax or sit down and read for at least thirty minutes before he eats, his stomach will be in a much better condition to handle his meal.

Too much indoor life in overheated houses with too little humidity tends to produce anemic, listless children who are susceptible to colds and constantly refuse their food. The parents who keep their children in the house "to protect" them from the cold weather are destroying the child's only chance of becoming vigorous and hardy.

The "indoor child" usually has constant colds. Children with colds or other maladies have little or no appetite. Food forced into their systems will do little good if they do not relish it, as sufficient saliva will not be secreted to assist in its digestion. Try to get at the cause of the cold and cure it; then normal appetite should appear. The child with bad tonsils may suffer from constant nausea, so that food is repulsive; and similar reactions occur with other physical defects. If regular habits and recreational activities out in the fresh air and sunshine do not produce a good appetite, then there must be an underlying cause which should be investigated.

A summary of rules for the hygiene of the school child with a poor appetite follows:

1. He should have plenty of sleep in a bedroom where there is an abundance of fresh air.
2. Sweets should be used for dessert only, never between meals. Any extra meals or lunches should consist only of milk and fresh fruits.
3. A regular schedule should include rising in time to attend to the washing of face and teeth, to toilet habits and to eating a warm breakfast with plenty of milk. The three regular meals and any "extras" should be served on time.
4. The child should eat raw fruits and vegetables containing vitamin C.
5. He should have constant changes in the menu to tempt his appetite.
6. The conversation at the table should consist of pleasant topics, never constant reprimands about manners. Parents should refrain from arguments and tense emotional scenes about the child's failure to eat this or that food. Parents' prejudices about certain foods should not be discussed in the presence of the child.
7. The child should not be allowed to overexert himself in play and should have a rest period before each meal.
8. He should become the outdoor type of child instead of the indoor one who is kept constantly in an overheated house.
9. Any physical defects should be corrected.

By R. G. LELAND

THE ADVANCES in medical science during the last two or three decades have given to most of mankind increasing years of life expectancy, freedom from pain, greater assurances of control of some of the most dreaded diseases, constant perfection of hospital facilities and an ever mounting number of discoveries and improvements in methods of diagnosis and treatment.

Many of these discoveries have resulted from the tireless devotion, initiative and encouragement which have always characterized the system of independent medicine as practiced in the United States and Canada. This search for the truth about disease—to which many institutions have also contributed significantly—and the very existence of the health professions are evidences of the awareness of conditions inimical to health.

There have been during the last thirty-five years some 4,000 surveys to determine the number and nature of health deficiencies, the extent and efficiency of public health activities, the costs of medical care and the methods of supplying medical services. These surveys have brought out varying opinions as to how many people lack medical care and as to the reasons for the failure to utilize available medical services when needed. Many of the surveys indicate that the failure to secure medical service is in most instances not due to a lack of facilities but to one or more of three obstacles:

1. A failure in the chain of communications which should bring the patient to a physician's office, a clinic, a dispensary or a hospital where service can be supplied.
2. A lack of desire for the services available.
3. An inability to pay for such services.

Experimentation in new forms of distributing medical services has been taking place for many years throughout the United States. Thus, today it is possible to find a large number of different types of medical plans operating under various organizations or agencies. There has never been an accurate and complete enumeration of these plans; it is known that there are

in operation more than 75 group hospitalization plans, some 54 hospital insurance companies, about 20 flat-rate hospital plans, at least 2,000 industrial medical care services, at least 500 medical and hospital benefit organizations, about 24 union sick benefit funds and fraternal plans operating on a nationwide basis, about 300 private group clinics, at least 300 college and university student health services and in at least 20 states an unknown number of plans designed to assist portions of low income farm families.

Each of these plans must have the participation of the medical profession. In addition the physicians themselves are operating more than 150 medical care plans and are considering the organization of approximately 120 more.

In many instances the medical profession has opposed some of the methods of providing medical service for the reason that experience has shown the impossibility of providing good and sufficient medical care under such arrangements. In other instances the proposals have met with prompt medical approval as representing the most satisfactory method thus far found to provide good medical care for the conditions or communities concerned.

The medical profession as represented by the 110,000 physicians who constitute the American Medical Association have never assumed a rigid or antagonistic attitude toward experimentation in the distribution of medical services when it could be shown that the services could be supplied satisfactorily under the proposed system without a deterioration of medical practice for all the people.

Compulsory sickness insurance, which has been adopted for a large proportion of the people of various foreign countries, is no new proposal for the alleged protection of these people against the cost of illness. It was first proposed by Bismarck in 1883 and has since affected to some degree a large part of the civilized world. It may be significant that the great democracies have been the last to be attracted by the lure of sickness insurance or state managed medicine.

No advantage can be gained from criticism of a country for having adopted a system of state managed medicine, but a critical analysis of these systems should be helpful in determining whether such methods are preferable to the free and independent practice of medicine, such as that which exists in the United States.

After acknowledging all the advantages which may have accrued to the peoples of foreign countries from their present systems of state managed medicine, as compared with their previous methods of medical practice, the medical profession of the United States is unwilling to foster a system of compulsory sickness insurance because

1. The accompanying complicated bureaucratic system has no place in a democratic state.
2. It would undoubtedly set up a far-reaching tax system with great increase in the cost of government.
3. The burden of the system is distributed over the low income class, which is least able to bear it.
4. Diagnosis and treatment are mechanical and superficial.
5. Medical care for the indigent is omitted, and the problem of serious and prolonged illnesses is not solved.
6. The control over medical service is placed in the hands of unqualified nonmedical individuals and organizations.
7. Such a system of medical care would lend itself to political control and manipulation.

The medical profession believes that a system of compulsory sickness insurance or state managed medicine does not offer the best method by which people with low incomes can be assisted to meet the costs of illness. Physicians, who by training and experience are accustomed to evaluate all the needs of persons who require medical care, believe there is as much, and often a greater, need for relief of the economic and material needs of the underprivileged than for some scheme of socialized medicine to relieve the ills caused by these economic and material maladies.

The medical profession's opposition to compulsory sickness insurance cannot be inter-

REASONS FOR LACK OF MEDICAL CARE

Massachusetts Department of Public Health Study of 15,000 Persons with Chronic Diseases

71% had services of a physician

29% had no physician for following reasons:

- **23%—need of health education (fear; no faith in physicians; felt condition not serious, etc.)**
- **3%—economic reasons**
- **2%—had irregular practitioners (cultists or quacks)**
- **1%—other or unknown reasons**

EDUCATIONAL BARRIER MORE IMPORTANT THAN ECONOMIC BARRIER

preted as reluctance or unwillingness on its part to support sound measures for the extension or strengthening of other forms of health and medical services and facilities.

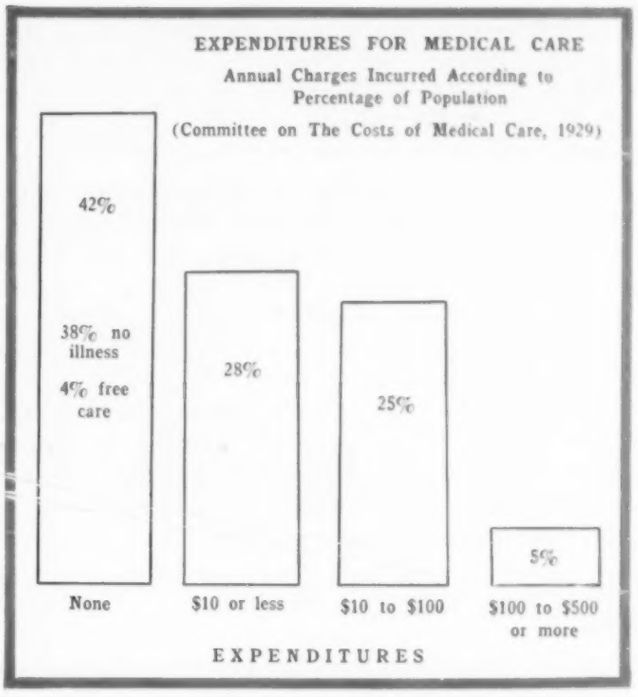
The American Medical Association has, ever since its organization in 1847, devoted its best efforts to the development and advancement of efficient public health departments and procedures.

Since 1874 the Association has repeatedly urged the establishment of a federal department of health with a secretary who shall be a doctor of medicine and a member of the President's cabinet. The Association's House of Delegates, meeting in special session, September 16 and 17, 1938, again recommended a federal department of health and not only approved in principle but also declared its intention to cooperate in developing efficient and economical ways and means of expanding public health and maternal and child health services.

Moreover, the American Medical Association favors the expansion of general hospital facilities where need exists, but the hospital situation indicates that there is at present a greater need for the use of existing hospital facilities than for additional hospitals. To assist in the greater use of the now unused hospital facilities, the American Medical Association recommends payment to many church and voluntary hospitals of the cost of the necessary hospitalization of the medically needy.

Custom has decreed that medical care is among the essentials to be provided for both those who are in need of public relief for food, clothing and shelter and those who, even though they are able to provide themselves with material necessities, do not have sufficient additional income with which to provide medical services. Thus, the indigent and the "medically indigent" require special consideration for their health needs. Although the principal source of medical care for the indigent has, at all times, been the gratuitous medical services furnished by physicians in private practice, the medical profession advocates recognition of the principle that the complete medical care of the indigent is a responsibility of the community and the medical and allied professions. It also urges that such medical care should be organized by local governmental units and should be supported by tax funds. The real difficulty has been to get the local community to appropriate sufficient funds to support a proper medical care program for the needy.

Since the indigent and the medically indigent now constitute a large group in the population,



the American Medical Association recognizes that the necessity for state aid for medical care may arise in poorer communities and may also require federal funds when the state is unable to meet these emergencies. Moreover, the medical profession as a whole will welcome the appropriation of funds to provide medical care for the medically needy, provided that public welfare administrative procedures are simplified and that the provision of medical services is arranged by responsible local public officials in cooperation with the local medical profession and its allied groups. The term "medically indigent" is defined as follows:

> A person is medically indigent when he is unable, in the place in which he resides, through his own resources, to provide himself and his dependents with proper medical, dental, nursing, hospital, pharmaceutical and therapeutic appliance care without depriving himself or his dependents of necessary food, clothing, shelter and similar necessities of life, as determined by the local authority charged with the duty of dispensing relief for the medically indigent . . .

The medical profession approves the principle of hospital service insurance as a community project. It also believes it practicable to develop cash indemnity insurance plans to cover, in whole or in part, the costs of emergency or prolonged illness.

Cash indemnity insurance plans would provide many people who might subscribe to such plans at a small monthly cost with a definite amount of cash with which to pay for medical services. Both hospitalization insurance and cash indemnity insurance should comply with state statutes and regulations. Some forty or more county medical societies have, within the

past two months, sought assistance from the American Medical Association in the formulation of appropriate measures to give medical assistance to people of low incomes within their jurisdictions.

The medical profession desires to see continued and improved the methods and practices which have been responsible for the great progress that has been made in the reduction of morbidity and mortality among all classes of people in the United States. Moreover, there is need for a definite and far-reaching public health program for the education and information of all the people in order that they may take advantage of the present medical service available in this country.

There may be some readers who will question the "40 million" in the title of this article. This number, we are told, represents approximately 20 million people who are dependent on the government for food, clothing and shelter and are similarly dependent on public funds or private philanthropy for medical care. In the emergency of sickness, it is claimed that some 20 million more persons, in the marginal income group above the relief level, otherwise self sustaining, become dependent on public aid for the provision of their medical care. It is believed that the remainder of the population, between 85 and 90 millions of persons, are able to provide themselves with the necssities of life, including medical services.

The national health problem then becomes chiefly a question of determining the nature and number of medical requirements for the 40 million persons and the development of preferable procedures to supply these needs. Some of the statements that have been issued pertaining to the health needs of these 40 million underprivileged persons leave the impression that the entire 40 million are in need of medical services each day of the year. The best information available indicates that only about half the population is sick during any one year and that only about 2 to 3 per cent is sick on any particular day. Consequently, even if it be assumed that the persons in the underprivileged 40 million suffer illnesses twice as frequently as those who have higher incomes, there would still be only approximately 200,000 persons of the 40 million ill each day. There is obviously a great difference between the number of services and facilities and the organization required daily for approximately 200,000 persons and the number of such services and facilities that would be required each day for all the 40 million underprivileged persons. For estimating existing needs, honesty demands that the most nearly accurate basis and not some vague fictitious inferences be used.

The medical profession would be the last to deny the existence of medical needs, whether these needs relate to the 40 million persons who require assistance or the 90 million people who are self supporting. It must be recognized, however, that health needs vary throughout the United States, and since these needs are not identical they are primarily local problems that depend on local conditions.

Today, physicians are engaged in the private practice of medicine in all but 19 of the 3,072 counties of the United States; the residents of these 19 sparsely settled counties have access to services of physicians in adjoining counties. Throughout these counties more than 2,000 county medical societies are now endeavoring to determine the prevailing need for medical and preventive medical services where such may be insufficient or unavailable. The same county medical societies with the assistance of state medical societies and the American Medical Association are prepared to develop preferable procedures to supply these needs, utilizing fully the existing facilities.

It may be well to cite some of the conditions which make it difficult, if not impossible, to guarantee good medical care to every one. Genes and germs are still responsible for certain conditions that are beyond human control. Accidents and ignorance are still operating to deprive individuals of legs, arms, sight and other health attributes. Superstitions and personal preferences still place good medical care beyond the desire of some people. Indeed, there have been instances in which court orders have been necessary to permit the use of medical science to save the life of a child.

Predictions that definite numbers of persons can be spared the experience of illness or can be guaranteed a longer span of life are without any basis of fact. Too frequently those who make such predictions fail to consider the human factor. Blame for many individual health defects, if blame is to be attached, belongs to the individual himself. No one, however skilled in medicine, and no method, however perfect, could keep some people continuously in health.

When all these and many other factors are considered, it should be evident that the mere fact of the availability of medical services gives no assurance that such services will be used by persons who need them. Moreover, it must be admitted that even the most skilled physicians cannot accomplish the impossible.

If it is understood that there are limits to the results which can be *(Continued on page 166)*

THE DEATHS in GOLDEN SQUARE

By ROBERT A. KILDUFFE

IN THE SUMMER of 1854 the inhabitants of that part of London known as St. James Parish, Westminster, pursued the even tenor of their way undisturbed by portent, premonition or foreboding of disaster. But when autumn came to Golden Square in the heart of St. James Parish the scene was reminiscent of the days of the Great Plague of just a little over a century before.

Men walked the streets in the morning and at night lay dead or dying; each man shunned his neighbor; families fled in fear and horror, and the empty streets were silent save for the hurried tread of harassed physicians or the slow and ominous rumble of the wagons carrying the dead to a hurried burial.

For the Angel of Death walked abroad in St. James Parish laying his hand on young and old, on feeble and strong alike, and the dark shadow of epidemic cholera hung like a pall over Golden Square, and never before in all the history of London had its toll of death been so sudden or so heavy. Within 250 yards of where Broad and Cambridge streets joined, nearly 700 died within ten days; nor was the end in sight.

The epidemic began unobtrusively with a single death from cholera on the nineteenth day of August. There was nothing unusual in this, for a death from cholera now and then was an ordinary event in the London of those days. Nor was there anything alarming in another death on the next day and one more on the day following. Then, for a day, there was none; then 1 a day for several days, and then, on the thirty-first of August the storm broke with 56 deaths followed by 143 on the first of September.

The disease was now in full cry, sudden in onset, relentless in its spread, terrifying in its intensity, for few indeed escaped it, and those who were stricken were stricken unto death.

Small wonder that alarm grew into panic, small wonder that each one shunned his neighbor lest he carry with him the effluvium responsible for the disease; small wonder that even the bravest fled from what seemed a charnel house. Small wonder, too, that the vestrymen, gathered on the evening of September 7, haggard and worn with anxiety and responsibility, felt themselves helpless to allay the dread visitation. Many meetings had they held, and many had been the measures tried, but all to no avail.

It is possible that when word was brought of a stranger who desired to place before them his idea of how the epidemic could be controlled, his request to be heard was granted in desperation and without hope. Who was he? His name, Dr. John Snow, meant nothing. What had he to offer?

He came into the meeting chamber, a slender, quiet, scholarly little figure, modest in manner and mild of speech, to propose as a means of ending the epidemic—what? Bonfires to dispel the miasmic vapors? They had been burning these many days without effect. Little bags of strange compounds to wear and by their odor drive away the effluvium of the disease? Some marvelous treatment, some strange preventive? Yes, quite strange, indeed. For said he, "the head and front of the offending" in this matter was the Broad Street pump, and the grand prescription to stay the epidemic was—simply the removal of the pump handle!

It is unfortunate that there was no artist among the vestrymen to preserve their expressions on hearing this absurd proposal; none to record their first reception of it. But, as mildly, though with utter conviction, the little

man told his tale, the tide of opinion began to sway. After all, there *might* be something in it, and what harm could it do? What else was there to do? So—let it be done!

So the handle of the Broad Street pump was forthwith removed that very night and, slowly at first and then with striking rapidity, the number of cases decreased; and by the end of September, Golden Square was free from cholera.

In the eyes of St. James Parish this was almost a miracle; but they did not know, nor could they appreciate, how great a thing had been done before their eyes. For so simple a thing as the removal of that historic pump handle marked the shattering of one more of the shackles of medicine and the still further emergence of its art from the heritage of an archaic past.

Dr. Snow's prescription marked the climax of long study, much thought and prolonged and laborious investigation. More than that, it marked an epoch in medical history for, for the first time, it advanced the true reason for the epidemic spread of cholera; laid bare the primary nature of the disease; made possible the discovery of its cause, the nature of which John Snow suspected and perceived by a process of pure logic, and finally established beyond cavil the connection between the spread of cholera and impure or contaminated water.

How he reached these conclusions is a story of sufficient interest to bear retelling.

•••

Through his biographer, Dr. Watson, Sherlock Holmes refers now and then to the use of laboratory investigations, as witness the "little monograph on the hundred and fourteen varieties of tobacco ash." But what established Holmes as unique were, first, his acuteness of observation, and second, his ability to draw logical though astounding conclusions from what he had observed. As he himself put it, "It is of the highest importance in the art of detection to be able to recognize out of a number of facts which are incidental and which vital."

If, as who can doubt, this can be taken as a concise compendium of the art of detection, it may also be accepted as an epitome of the art of diagnosis. This again emphasizes that the detective and the physician are, as it were, brothers under the skin. What interests us in Sherlock Holmes, if it does not arouse our admiration, is his aptitude for inferential deduction; it is extremely interesting to learn from his creator, Conan Doyle, that Holmes was modeled, at least in part, after Dr. Joseph Bell of the Edinburgh Infirmary, whose diagnostic intuition often surprised and even startled both his patients and pupils. Dr. Bell, however, has been equaled and even in some respects excelled by some of those who preceded him. If, by his diagnostic acumen coupled with the fact that Conan Doyle was one of his pupils, he became the unwitting founder of the modern school of mystery fiction, those of whom he was a prototype have left an equally lasting mark on the history of medicine. For, by their ability to observe and their capacity to reason, superstition and ignorance were forced to give way before reason and logic, and the slow march of medical science from miasms to microbes became inevitable.

Among those whose brilliant achievements contributed greatly to the understanding of epidemic disease, and particularly to an understanding of the methods whereby it might be spread, was Dr. John Snow, whose work in tracing the paths of death through that part of London known in 1854 as Golden Square marked him as a man far in advance of his time.

WITH ENTHUSIASM, DR. SNOW CONVEYED HIS STARTLINGLY NEW IDEAS TO SOME OF HIS COLLEAGUES, BUT ONLY TO BE MET WITH DUBIOUS SMILES AND PATRONIZING TOLERANCE. HE REALIZED THEN THAT HE MUST HAVE FACTS TO BACK UP HIS CLAIMS.

There was no dispute among the medical fraternity of the time as to the nature of the disease whose ravages were a cause of consternation. All were agreed that it was clearly that virulent plague known then, as now, as Asiatic cholera. Few, however, were agreed either on the nature of its cause or the manner whereby it was disseminated.

Asiatic cholera is one of those diseases whose characteristics are so striking and clear-cut—purging, vomiting, cramps, collapse and death within six to forty-eight hours—that it may be distinctly recognized as having been described in the oldest available records. Accounts of its occurrence in devastating epidemics can be found in the writings of the earliest medical historians; many outbreaks are recorded by the Greeks and Romans; it was without doubt rampant at various times during the Middle Ages; and despite valiant efforts and the resources of modern medicine it still takes a heavy toll in India because of inability to control or combat various native customs which favor its existence and spread.

India, indeed, has always been the home of cholera; but there was little tendency for the disease to spread and overflow its more or less natural boundaries until the latter half of the eighteenth century when the extending activities of the East India Company served as a medium by which the disease was enabled to gain a foothold in Europe and the world at large.

Perhaps the first great cholera epidemic of relatively modern times occurred in the year 1769 in the region of Madras, the disease remaining more or less prevalent for twenty years. But, as India was then largely an unknown continent to the physicians of the day, cholera, India's most prevalent disease, was one with which the doctors of Europe had little, if any, familiarity.

Knowledge of its symptoms, its severity, the rapidity and virulence of its onset, and its high mortality were gradually brought back by the surgeons serving with the troops of the East India Company; but there was no understanding of its mode of spread and transmission and none of its real nature or cause. There were indications, if only there had been some one with the keen eye to see and the still keener intelligence to interpret them.

Thus, Mr. Cruikshank, surgeon to the Ninth Regiment of Native Infantry, in reporting the occurrence of epidemic cholera in June 1814 while on a march from Jaulnah to Trichinopoly, recorded that the disease appeared with great severity in one battalion, while another, though marching with it under identical conditions, escaped almost entirely, having but one case. In his report, Mr. Cruikshank said:

> It was the belief of the natives, strenuously fostered and inculcated by their spiritual guides, that the epidemic was the immediate consequence of the wrath of Heaven outraged and insulted by the pollution of certain sacred tanks situated at Cunnatore in which sepoys of low caste and camp followers had indiscriminately bathed. Such we may not regard as affording a very satisfactory solution of the difficulty; yet it leads, I think, directly to the true point of inquiry.
>
> At Cunnatore the force was so encamped that while the 5th Native Infantry had their supplies of water from wells, the puckalillies of the 9th Native Infantry procured water for that battalion from tanks situated on low ground on the left of the line.
>
> The fact that the disease first broke forth a day or so after leaving Cunnatore; the prevailing opinion of the natives that it originated there, and that somehow it was connected with the tanks; a desire to discover some one cause confined in its influence and operation to one out of the two battalions; lastly, the difficulty or impossibility of lighting on any other; all

these led to inquiry and to ascertaining with a considerable degree of certainty that each battalion was supplied with a source of water distinct from the other.

Here, indeed, was an acute observation in which there was the germ of a great discovery. But the time and the man were not yet come, and the reading of Mr. Cruikshank's report was more than likely marked by a lifting of the eyebrows at such highly speculative and unorthodox suggestions. For it must be remembered that cholera at this time was a disease of which the cause was unknown, both this and the manner of its spread being the subject of divergent and at times even acrimonious discussion. The air was rife with talk of "morbid poisons," of the predisposing influence of miasms and effluvia and so on; there was, perhaps, one point of more or less general concurrence; namely, that the cause of the disease, though its exact nature was unknown, existed in the atmosphere —or elsewhere!

Of one thing every one was quite certain: The disease was not contagious. Decaying organic matter and the offensive odors which arose therefrom, somehow associated with morbid poisons and miasms in the atmosphere, these were the things to be guarded against in attempts to control the spread of the disease. The medical world, after all, had not seemed to progress very far in these matters, for all this was quite reminiscent of, if not almost identical with, the wordy battles over the cause and dissemination of yellow fever, as one may read, for example, in any account of the epidemic of 1793 in Philadelphia, and see in the violent debates between those who blamed it on the effluvia from rotten coffee, bad fish or putrid vegetables, and those who with equal vigor held out stoutly for the influence of rotting hides on the Drinker wharf.

It was not that there were no straws to show which way the wind blew; simply that there were none to whom their significance was apparent. As every one knows, it is easy to be wise after the event, but it does seem remarkable that it took so long to appreciate what now seems so obvious.

There were, for example, certain generalities applicable to the spread of cholera to detect which no great perspicacity was required. It traveled along the paths of human intercourse,

often more slowly than the travelers but never faster. In extending into new territory it always appeared first at a seaport. It never appeared on ships going from a country free from cholera to one where the disease was present until the ship entered port or its crew had opportunity for contact with those on shore. It is true that its exact progress from town to town is not always traceable, but it never appeared unless and until there had been opportunity for its conveyance by human intercourse.

Despite all this the great majority of the medical world looked at the disease through the eyes of the past and held that it spread through the atmosphere. Here and there were some who had doubts, among them Dr. Snow.

His studies on the epidemiology of cholera are all the more remarkable because he was not primarily a student of public health, nor had he ever held any position connected with this phase of medicine.

On the contrary, having passed his examinations at Apothecaries' Hall in London in 1838, thus becoming a duly qualified practitioner, he hung out his shingle in Frith Street, Soho Square, and engaged in general practice. That he was of an inquiring mind is evidenced by the fact that three years later, before the Westminster Medical Society he presented a paper "On Asphyxia and on the Resuscitation of New-Born Children," introducing an air-pump invented by Mr. Ross of Regent Circus for artificial respiration. Two months later he presented an instrument of his own invention for puncturing the chest for the withdrawal of fluid, and this was followed by several other scientific communications.

WHEREVER THERE WAS CHOLERA IN LONDON OR NEARBY, THERE WAS ALSO DR. SNOW. HIS DATA ON HOW IT SPREAD, WHY IT REACHED SOME PERSONS BUT APPARENTLY NOT OTHERS, CONTINUALLY BROUGHT HIM BACK TO THE PEOPLE'S SOURCE OF WATER SUPPLY.

In 1843, having passed the examination for the University of London degree, "Mr." Snow became "Dr." Snow. All this was despite the fact that, some years before, he had shown evident signs of pulmonary tuberculosis, which however had apparently been arrested by proper measures. Now, when the opportunity for successful practice was opening before him, symptoms of severe renal disorder appeared which necessitated his practical retirement for three years.

Dr. Snow returned to London just after the discovery of anesthesia in America and at once became greatly interested, conducting experiments which led him to devise an improved inhaler and methods designed to decrease the dangers of administering this new agent. It was inevitable that he should gradually devote himself to this new specialty, anesthesia, and he eventually became the foremost anesthetist in London. Had he been other than he was, Dr. Snow's fame would have been based on this. But his was an eager, inquiring intelligence, and in 1848 his interest was aroused in the cause and propagation of cholera.

He was by no means satisfied with the commonly accepted concept of absorption of a morbid poison from the air. His reasoning on this point was not only acute but extremely logical.

In all the diseases, said he, which arise from the entrance of a "poison" into the blood, certain general symptoms—headache, chills, rapidity of the pulse—precede any local demonstration of the disease, not sometimes but always and in all instances. With one exception, cholera, in which the symptoms begin in the alimentary canal, all the general symptoms were the consequence of the "flux" with which cholera begins. Therefore, he argued, the poison of cholera cannot arise from the inhalation of any effluvium but must be a poison acting on the alimentary canal by being brought into direct contact with its mucous lining. If this be true, then the poison of cholera must enter the body by way of the mouth. If *this* were true, then perhaps the poison was excreted from the alimentary canal. Perhaps, too, under these circumstances if excreta containing the cholera poison were to gain entrance to water and such contaminated water were drunk by a healthy person—here was a speculation of great interest!

With enthusiasm he conveyed his ideas to some of his colleagues, to be met with dubious smiles and even patronizing tolerance. Realizing that nothing but hard, cold, indisputable facts could prove the validity of his contentions, he then began a systematic collection of data; and to this endeavor, practically single handed, he devoted a large portion of his time during the next nine years. Wherever there was cholera in London or nearby, there also was Dr. Snow; and little by little his data grew in volume, and the greater became his certainty of the correctness of the assumptions borne of pure reasoning.

The "jumping off" place of the scientific investigator is always a survey of the available information to determine what is known, the explanations which may already have been advanced, the uncertainties which must be cleared up and the various probabilities which must be taken into ac- *(Continued on page 157)*

By JAMES EDWARD ROGERS

The New Day and

The past thirty years have seen many radical changes in the American way of living:

In 1900, America was a nation of dirt roads.	Today it is a nation of asphalt and cement pavements.
In 1900, the speed of life was four miles an hour.	Today it is forty miles and more.
In 1900, we were an agricultural nation.	Today we are an industrial nation.
In 1900, men did the mechanical work of the world with their arms and legs.	Today an automatic machine does the mechanical labor of the world. Man has become a machine attendant—a puller of brakes and a pusher of buttons.
In 1900, boys and girls had the disciplinary, educational responsibilities of doing home errands and chores.	Today the telephone, the delivery truck, the oil burner and other labor-saving devices have robbed our boys and girls of their home responsibilities.
In 1900, men and women found their play and recreation in the home, in the church and in the neighborhood.	Today the biggest American business is commercialized amusements.

A NEW DAY demands a new education. A new America has created the need for a new progressive school system that will prepare growing boys and girls to live efficiently and happily in a rapidly changing world. The characteristic of this age is change. An ever changing world demands an ever changing education. We must ever change education to meet the needs of an ever changing America. All human institutions are adjusting and adapting their programs to meet the challenges that come from the new ways of modern living. Government, industry, finance and labor are trying to meet the new conditions. The church, the home and the community are constantly altering their programs in order to adapt their services to the demands of youth and adults; so the school, which trains and prepares the young for realistic living in a rapidly changing world, should most certainly look forward and not backward if it is to do an adequate job. If the purpose of education is to prepare

the New Education

and train youth for complete living then the school must project its plans into the future. Boys and girls entering the first grades of the American schools today will not graduate from the high schools until twelve years from now, in 1951. If during the past thirty, twenty and ten years there have been such fundamental alterations in the American plan of living, then certainly the children in our primary grades today will graduate into a much different America ten years from now.

In 1900, there were no "white ways." People then were active participants in their play. Today they have become spectators. The American disease is "sititis" or "spectatoritis." All of us are sitting at our work and sitting at our play. This does not help our physical growth and development. Man is simply an activity animal and depends on his big muscles either through work or play to develop the strength of his organic system—the heart, the lung, the liver and the kidney. Today many physical breakdowns are due largely to the sedentary life that young and old are living as a result of modern inventions of labor-saving devices. Modern civilization, therefore, forces the need for health and physical education in our public schools. The open spaces are rapidly disappearing; hence we must have playgrounds and athletic fields. Boys and girls will be attendants to automatic machines and consequently will not get exercise in their work as their fathers did. They must therefore have opportunity for active sports in which they can use their arms and legs in running, throwing and climbing.

Fortunately the public schools have been changing their programs in order to meet the challenges of the new America. Although these changes have been slow there are now six great areas in modern school curriculums. We must think in terms of great fields of education—ways of education. We must not think in terms of subject matter but rather in terms of the big ways in which we can prepare and train our young boys and girls to meet effectively and happily the conditions of American life that they will have to face in 1950. So today modern education consists of six great areas:

1. The academic area, which deals with transferring accumulated learning of the world from one generation to the other.

2. The science area, which has to do not so much with knowledge as with understanding through investigation and discovery. Children must be given an understanding of human nature through the biologic sciences and the physical sciences, if they are to be properly prepared for life.

3. Vocational education.

4. Art education.

5. Social sciences.

6. Health, physical education, safety and athletics, which have to do with the physical welfare of the young.

Health and physical education is a way of education most essential today because modern civilization is making it most difficult for young boys and girls to live physically well.

The job of the public schools is to prepare boys and girls for complete living. It will be more difficult in the future for them to live physically well than it was for their fathers. In spite of the fact that outstanding improvements in health and medical science have been achieved there are signs that physical illiteracy is increasing in this country. The public schools are as much responsible for physical literacy as for mental literacy.

There are three outstanding achievements:

1. We have increased the longevity of life twenty years in the last century from a life expectancy of thirty-six years in 1825 to fifty-six in 1925.

2. We have conquered communicable diseases such as typhoid, smallpox, malaria and diphtheria.

3. We have decreased child mortality. More and better babies are born into the world, and they live longer.

In spite of these achievements, there are three outstanding facts to offset them:

1. Seventy per cent of the 26 million school children have physical defects that do two things: mar their future physical well-being if neglected, and retard their educational progress.

2. The draft statistics showed that one third of the men between the physical maturity ages of 21 and 31 had physical defects that prevented them from going into uniform to fight for their country.

3. Life insurance statistics show that there is an increase in the death rate between 45 and 65, although there has been a decrease in the death rate in other age groups.

These defects are not caused by germs from without but by physical degeneration from within. They are not so much a matter of medicine as of physical ways of living. They arise largely from modern life and the difficulties in this industrial machine age for the human body to adjust itself to the speed, stress and strain.

This rapid, mechanical, standardized world has developed three new national diseases; namely, growth of physical defects, mental breakdowns and nervous ailments.

The new age has produced a new education. Once it was sufficient simply to provide for the three R's in the three months' school. The little red schoolhouse was sufficient for America when it was rural and agricultural, but it will not do for modern, industrial, urban America. The modern school must provide in addition to the three R's, science education, vocational education, art education and physical education.

Just as we have a new education, so we have a new physical education. It has nothing to do with physical culture or physical training. It is not concerned with the education of the physical but rather with education through the physical.

There is a difference between the old America of the little red schoolhouse and the new America with its modern school buildings with auditoriums, music rooms, art rooms, gymnasiums and athletic fields. A new day demands a new education; a new child demands a new curriculum; a new environment demands a new school plant.

Education has changed to meet the demands of the new youth and the changing world. There are five steps in the growth and development of modern education. At first the three R's were sufficient when America was young and winning the West, and its ways were pioneering. In 1880, when industry began to come, the teaching of the biologic and physical sciences became a necessity. In 1900, with the great growth of manufacturing and business, there came a national demand that the school provide for vocational education. Then in 1910 there was a feeling that education was neglecting the art of living and that our boys and girls should be prepared in the making of a life as well as a livelihood; so art education became part of the school curriculum. Now in 1939, with the dominance of the machine, the artificiality that has come with standardization, physical education is being provided as an integral part of the school system.

There is a new physical education as there is a new education. It deals not so much with exercises and calisthenics as it does with health. It has gymnastics not so much to train acrobats as to give neuromuscu- *(Continued on page 166)*

Give the Cripple a Chance!

By MATHER CLEVELAND

H. Armstrong Roberts

THE COMMUNITY'S attitude toward the cripple presents one of the most interesting studies in social evolution that history offers. The term "cripple" is derived from an old German word *kriupan,* which means to creep. This suggests uncertain progress in locomotion, in growth or in mental reactions. There are, of course, both mental and physical cripples, but this discussion deals only with the physically handicapped.

The crippled child is one who is born with a congenital malformation or acquires in infancy or childhood a crippling disease or injury. The adult cripple is one who has acquired his malady in childhood and has grown up with it, or through accident or disease has become a cripple during his adult years.

The progress of the cripple through the ages to his present social status has been slow and painful. Among primitive peoples the sickly or deformed infant was, and for that matter is, not allowed to survive. The Spartans and Greeks destroyed the physically imperfect, aiming to achieve racial supremacy. The survival of the physically fit was the rule, ignoring mental qualities and values, which are just as truly inherited.

The Mosaic law reads, "Thou shalt not suffer a witch to live." The varying interpretations of this doctrine led to much subsequent persecution and often death for individuals who deviated from what was considered the normal pattern. Restrictions were placed on the physically handicapped by the same law, "A blind man or a lame, or a man that is broken footed, or broken handed, or crooked backed, or a dwarf . . . he shall not go in unto the vail, nor come nigh unto the altar, because he hath a blemish." However, he was allowed to eat the bread of his God.

The ancient fear and uneasiness in the presence of cripples was due to a feeling that they were accursed of God for sin committed by them or their fathers.

The new era momentarily dawned for the physically handicapped when Jesus of Nazareth began his short career. Many of his recorded ministrations dealt with the lame and the blind. St. Peter, his disciple, healed "a certain man lame from his mother's womb."

These sympathies were forgotten during the ensuing years as the culture, science and medicine of ancient civilization were eclipsed by the darkness of the Middle Ages. Again superstitious fear ruled the community's attitude toward the cripple. If he were grotesque enough of body and bright enough of mind he might be able to find employment as jester in some court.

With the rise of industrialism in the eighteenth century, new factors in the problem appeared. Child labor was absolutely imperative to enable a family to live on the pitiful wages earned, and the children began to work for fourteen or fifteen hours a day at the age of 4 or 5. Bad housing, overcrowding and excessive hours of labor meant a great increase in the number of cripples from diseases developed in childhood.

The earliest attempt to make any provision for the care of cripples was by the establishment of an asylum for the crippled and the insane in Baden in 1758. No distinction was then drawn between the mentally and the physically handicapped. This institution prescribed for its inmates (1) work such as they could do, (2) punishments that were light and (3) medical care.

In the early part of the nineteenth century, attention was sharply drawn by novelists and by public spirited men and women to the degrading conditions of child labor, long hours of work and poor housing. And a great reform was born. With an aroused social consciousness, medical thought began to turn toward this problem of the rehabilitation of the cripple. In 1823 in Prussia the first modern conception of proper treatment was instituted with the opening of a hospital which provided education facilities along with medical care.

Certain great physicians stand out among the menders of the maimed: Stromeyer, Little, Hugh Owen Thomas, Sayre, Ridlon, Robert Jones, Bradford, Lovett, Hibbs and Royall Whitman contributed important advances in surgical technic. The discovery of germs by Louis Pasteur and of inhalation anesthesia by Morton and Long made surgery safe and humane.

It is not mere sentiment that has motivated modern society to educate and rehabilitate the cripple. It is an unbearable burden for many

A PATIENT, THIRTEEN YEARS OLD, THE VICTIM OF UNTREATED CLUBFEET. HER SHOES HAD TO BE MADE FROM AUTOMOBILE CASINGS.

THE SAME GIRL SIX MONTHS LATER, WHEN HER FEET WERE CORRECTED BY STRETCHING IN PLASTER OF PARIS CASTS AND BY SURGERY.

Junior League Curative Workshop, Milwaukee

THE CRIPPLED CHILD MAY HAVE TO BE PLACED IN A SPECIAL INSTITUTION THAT IS PROPERLY EQUIPPED TO CARRY OUT A PLAN OF THERAPY.

families to support a single cripple in idleness, and for the community to do so on a large scale is a great economic waste.

Several years ago it was estimated that there were 350,000 known crippled children in North America, and the actual number must be considerably in excess of this. The factors that cause crippling among children have been carefully tabulated and averaged from a number of large clinics. These rank as follows:

Causative Factor	Per Cent
1. Infantile paralysis	29-35
2. Tuberculosis of bones and joints	18-35
3. Congenital deformities	7-11
4. Deformities due to rickets	5- 9
5. Deformities due to injuries	4
6. Acute bone infections	3
7. Other varying causes	15-24

Many of these major causes are being met by direct attack. Better housing, better wages and better food are causing a diminution of those diseases due to nutritional disturbances. Tuberculosis is definitely declining after a prolonged campaign. The efforts to obtain specific protection against infantile paralysis have to date been unsuccessful, but this work is being continued in many laboratories and clinics, and some day this disease may be as effectively controlled as diphtheria is. Our yearly toll of accidents which produce child and adult cripples is so appalling that it merits our most serious study. We cannot ignore an annual census of dead and maimed which exceeds the battle casualties of the American Expeditionary Forces in France. Public sentiment, public health and medical science combine in a vast effort to reduce the number of future cripples.

Milwaukee-Downer College

IN THE UNITED STATES THE CARE OF THE CRIPPLED IS DIVIDED BETWEEN STATE CONTROLLED INSTITUTIONS AND THOSE PRIVATELY ENDOWED.

In dealing with those at present physically handicapped, the community has a definite plan. Every crippled child must be given an education, the best medical or surgical care available and vocational training when it is needed. The medical care often includes psychologic training. A normal healthy state of mind is of great importance in rehabilitation, and any feeling of inferiority or inadequacy must be eradicated.

Orthopedic or bone and joint surgery, which is intimately concerned with the technical care of the cripple, has made great strides in the past thirty years. In many instances, braces and crutches may be discarded by resorting to surgical operations which will stabilize paralyzed, diseased or deformed joints and mend badly broken bones.

In some countries the care of the cripple is entirely a government function, with hospital centers and schools devoted to this work. In our country the work is divided between state

controlled institutions and those privately endowed. Fraternal orders and service clubs throughout the United States have contributed enormously during the past twenty years to give the cripple every opportunity. If this program can be accomplished without removing the child from a satisfactory home environment, it is preferable; but if conditions at home are such as to defeat the end in view, the cripple may have to be placed in an institution properly equipped to carry out the plan. Surgical operations, of course, require hospitalization. Segregation of cripples is, I believe, unfortunate and should be avoided whenever possible. It is essential to train the cripple to take his place among his fellow men with whom he must eventually compete. Prolonged association with other cripples and constant comparison of achievement on a scale which is below standard have a tendency to unfit him to assume his place in the community.

There has, at times, been a certain amount of maudlin sentiment manifested over the cripple, especially the child. Various institutions and individuals may compete with one another to entertain him with numerous outings and excursions, to feed and clothe him. If these many well meant kindnesses are sometimes overdone, it is small wonder that the little cripple feels that he is entitled to more than his share of attention. I have occasionally noted a slight reluctance to relinquish a rehabilitated cripple and to allow him to assume his place among his normal fellows. This possessive feeling may be well meant and altogether kindly, but it tends to lessen self confidence and self reliance, which are essential parts of the rehabilitation.

The financial burden of caring for the cripple must, in most instances, be shifted from the individual family to the community. A complete program, including surgical care, education, psychologic and vocational training, is beyond the ability of the average family to plan or beyond their means to pay for. This is not charity but sound economics if a fair proportion of self supporting individuals emerge.

The adult cripple, who has acquired his handicap after maturity through accident or disease, excites far less interest and pity than the child cripple, but his plight is often more appalling. He may have a family dependent on him for support. He has known the satisfaction of earning his living. To be turned in an instant from a self supporting, self reliant individual into a helpless dependent is a shocking experience which requires great courage to face. The compensation laws have made certain provisions for medical care and subsistence for those injured in industry. The rehabilitation of the group of cripples requires careful healing of both mind and body and also the assurance of a return to productive work wherever it is possible.

The attitude of the cripple toward the community has undergone tremendous change along with this progress in his treatment and his social welfare. Self pity, shyness and a general feeling of inferiority should no longer rise as a barrier between him and his fellow men. The cripple can today expect an even break and get it, if he is willing to work for it. The opportunity is there. He should not expect more than his chance to succeed. The community owes him this, but it does not owe him a life of ease without any effort on his part. He should take deep satisfaction in the fact that his chance of rehabilitation is excellent. He can be educated and trained to take his place among the rest of us. There his chance of success will vary according to his individual ability. Some of the physically handicapped will rise above mediocrity to great heights. For example, Charles Steinmetz in science and Clarence Day in literature won distinction, not as cripples but in competition with their fellow men as peers.

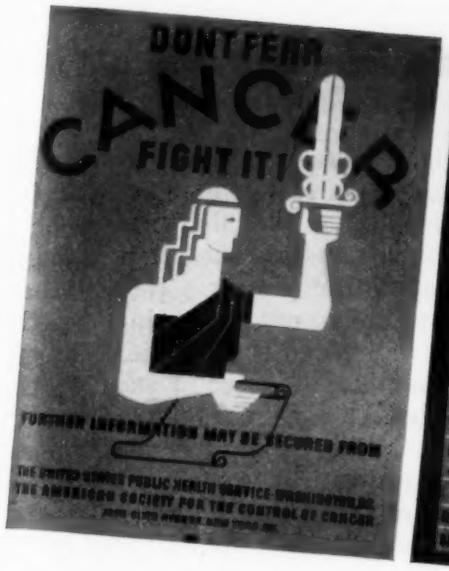
This problem will never be solved by pious or affable slogans or phrases but by carefully planned intelligent study and devoted service by all concerned. Give every cripple a chance!

FIGHT INFANTILE PARALYSIS!

The battle has just begun! In the past few years much has been learned about the nature of this disease, about methods that may be used for the reconstruction and rehabilitation of the crippled. Now scientists must discover:

1. *How to isolate the specific cause of the disease.*
2. *How the disease is passed from one person to another.*
3. *How to diagnose the disease with certainty in that brief period when the disease is invading but before the patient is crippled.*
4. *How to give children the power to resist infection.*

The vast program of the National Foundation for Infantile Paralysis, which culminates in the President's Birthday Ball, January 30, gives the layman an opportunity to help the scientist in furthering the fight. Do your share!



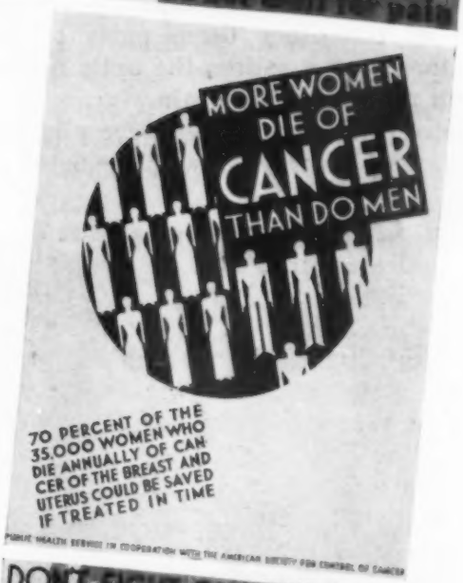
ART AIDS the DOCTOR

By MAURICE B. JUDD

THE use of art in the war on cancer may seem a bit far fetched until one notes the strikingly effective manner in which it has been employed by the Federal Art Project of the Works Progress Administration. The poster division lately reproduced highly artistic posters, mostly classic in design, giving salient advice and admonition to persons suffering from cancer. Both because of their practical value and because of their art merit the posters have created a widespread demand and are being or are to be distributed generously by national, state and local societies engaged in the war on cancer.

The posters come mounted on board in sizes ranging from 11 by 14 inches to 22 by 28 inches and may be purchased for distribution by interested organizations at most reasonable prices in lots of 100, 200, 300, 400, 500 and up. Single posters may be had at from 20 to 35 cents and up, and about half prices may be had on reprint job lots of posters of which a silk screen is in stock. Checks for the posters are made payable to the Treasurer of the United States. The Treasurer has set up a fund for the purchase of supplies for the Art Project. The posters are sold without profit.

[*Note.*—In furtherance of the fight against cancer, the American Medical Association and the National Broadcasting Company join forces on Wednesday, February 22, to present to the public the known factors in the cause, prevention and treatment of the disease. Tune in for the dramatization, "Cancer Can Be Cured." See announcement, page 168.]


MORE WOMEN DIE OF CANCER THAN DO MEN
70 PERCENT OF THE 35,000 WOMEN WHO DIE ANNUALLY OF CANCER OF THE BREAST AND UTERUS COULD BE SAVED IF TREATED IN TIME

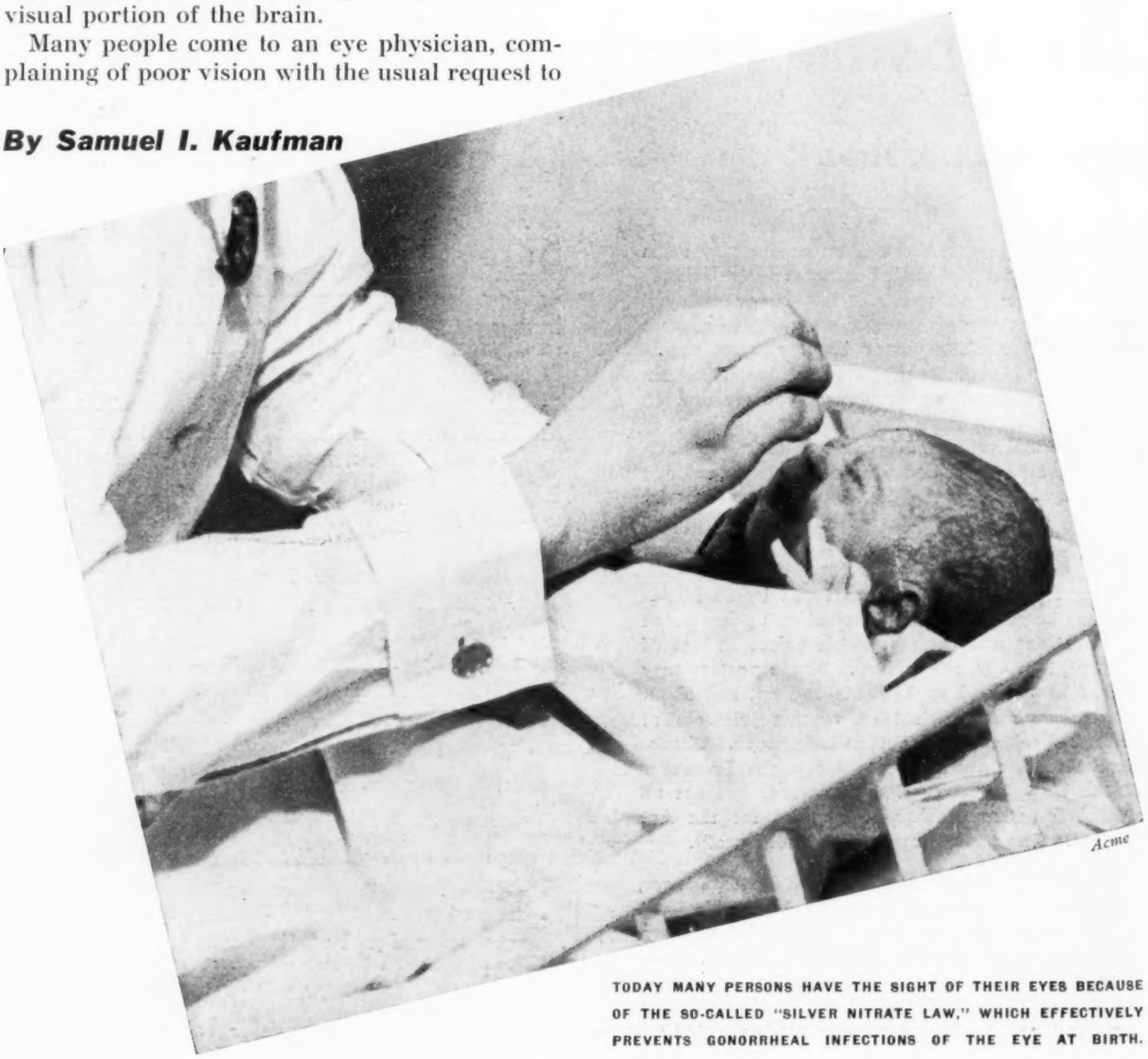
DON'T FIGHT CANCER ALONE
ASK THESE AGENCIES FOR ADVICE
YOUR STATE OR LOCAL MEDICAL SOCIETY YOUR STATE OR LOCAL HEALTH DEPARTMENT CANCER COMMITTEE OR STATE MEDICAL SOCIETIES THE WOMEN'S FIELD ARMY OF THE AMERICAN SOCIETY FOR THE CONTROL OF CANCER

YOUR EYES—*what to do when in trouble: II*

IT HAS BEEN previously stated that, when their sight begins to fail, most people invariably suspect that what they need in order to correct the condition is a pair of the "right kind of glasses." It has also been shown that while glasses do correct failing vision, it is only in those cases in which it is due to faulty shape of the eyeballs. Here glasses perform a great service by restoring a correct focus to incorrectly focusing eyes and making good and comfortable vision possible. There are many cases, however, in which defective vision is due not to need of glasses but rather to disease. Here then, the treatment must be medical or surgical, as the case may be. This is especially true in the case of the other three parts of the visual mechanism, the retina, the optic nerve and the visual portion of the brain.

Many people come to an eye physician, complaining of poor vision with the usual request to be fitted for glasses. After carefully measuring the eyes for excessive length or shortness, the examiner finds, let us say, that the eyeballs have normal dimensions and that there is therefore no indication for glasses. He still has, however, the problem of accounting for the reduced vision of his patient. He accordingly proceeds to examine the second part of the visual mechanism, the retina. The retina in the human eye is like the film in the camera. Here, too, a photochemical reaction takes place, but in the case of the eye there is a release of an impulse, which is transmitted by way of the optic nerve to the occipital portion of the brain. Everything in the structure of the retina is intended to enhance this photochemical effect.

By Samuel I. Kaufman



Acme

TODAY MANY PERSONS HAVE THE SIGHT OF THEIR EYES BECAUSE OF THE SO-CALLED "SILVER NITRATE LAW," WHICH EFFECTIVELY PREVENTS GONORRHEAL INFECTIONS OF THE EYE AT BIRTH.

When this delicate membrane becomes changed as a result of injury or disease, reduced vision or blindness is the result.

After dilating the pupils by means of "drops," the examiner is able to inspect the interior of the eyeball through a special instrument known as the ophthalmoscope and examine the retina throughout almost its entire extent. Knowing what the appearance of this membrane should normally be, he can now readily detect any departure from it as well as determine the exact location and extent of this change. Abnormal changes of the retina are found frequently, and their significance will of course depend on whether the changes are acute or chronic, progressive or stationary and on their location, intensity and size. These changes may take the form of hemorrhage, swelling, scarring, degeneration, atrophy or even detachment of the retina itself from its underlying structures. Most changes in this membrane are not due to local causes. In most cases, they are due to internal diseases. As a matter of fact, the first evidence of the presence of a general disease may be discovered in this membrane. In this way, because the eye physician deals with a part of the body which is accessible to direct inspection, he is frequently the first to discover the presence of such diseases. Among the general diseases that may affect the retina are Bright's disease, diabetes, syphilis, high blood pressure and arteriosclerosis.

The inspection of the interior of the eyeball, which is never omitted by an eye physician in the course of his examination, is therefore important for two reasons. First, it reveals the essential cause of the lowered vision and second, it enables him to call the attention of his patient to the presence of a systemic disorder and direct him to a competent physician for medical treatment.

If, after measurment of the eyeball and careful inspection of its interior, nothing abnormal has been found to account for the lowered vision, the oculist then proceeds to examine the third part of the visual mechanism; namely, the optic nerves, which extend from the back of the eyeballs to and into the occipital lobes of the brain. The function of the optic nerve is to transmit the impulse released by the retina to the brain, where it is elaborated into an idea of what is seen by the eye. When we look at an object it cannot be said that we see or have a conscious perception of that object until the impulse released by the retina is received by the brain and there elaborated into an idea. To see implies the knowledge of what stands before one, and this is the function of the visual portion of the brain. It is obvious then that, if the sight is to be normal, the path leading to this part of the brain and the brain itself must be intact. If anything happens as a result of injury or disease to block or interrupt this path, interference with vision or blindness must result, though the rest of the visual mechanism be otherwise normal.

The diseases most commonly affecting this portion of the visual mechanism are brain tumors, syphilis, sinus infections and chronic poisoning from lead, wood alcohol or tobacco. Thus, when the eye physician is confronted with a case of disturbed vision he may often find the eye dimensions correct and the interior of the eyeball normal, but he may find that the cause of the disturbance is in this visual pathway. He may also determine by means of special tests in many cases its exact location between the brain and the termination of the optic nerve. It must again be emphasized that serious disturbances may exist in this portion of the visual mechanism without any visible change in the appearance of the interior of the eyeball. When dealing with a case of disturbed vision with normal ocular conditions, the eye physician will always proceed to examine the portion of the visual mechanism situated behind the eyeballs. Many serious systemic diseases betray their presence for the first time by causing visual disturbances, and the eye physician has thus the opportunity to save not only his patient's sight but his life as well.

Although the seat of disease affecting the visual pathway is to be found anywhere between the termination of the optic nerve in back of the eyeball and the brain, this path is also frequently interfered with by a disease acting within the eyeball on the optic nerve as it enters the eye. This disease, known as glaucoma or hardening of the eyeballs, affects peo-

ple of middle and advanced life. Glaucoma is responsible for much blindness, although by early recognition of its presence much can be done to stop or limit its progress. It must be remembered that this disease is insidious in its onset, in most cases not accompanied by pain; but it may in the course of a short time permanently endanger vision or cause total blindness. Glaucoma is one of those diseases affecting the eyes that frequently give no warning of their presence. People so affected have generally no idea that there is anything seriously wrong with their vision. This is most unfortunate, since a good deal of valuable time is lost, and they come to the eye physician when sight is already permanently reduced as a result of destructive changes within the eyeballs. The best chance for cure of this disease lies in its early recognition and prompt treatment.

Not infrequently the eye physician is called on to deal with visual disturbances that have their origin in the so-called motor apparatus of the visual mechanism. The motor apparatus includes twelve muscles attached between the eyeballs and the bony structure of the orbits. It is the function of these muscles to maintain as well as rotate the eyeballs in various positions so that in any given direction of the gaze the images fall on corresponding points of the retinas of both eyeballs. Under these conditions the brain will readily fuse both images into one, and there will result monocular single vision. When, however, one or more of these muscles become partially or totally disabled or paralyzed as a result of injury or disease, the images as received no longer fall on corresponding points of the retinas, especially in the field of action of the affected muscles. The result, double vision, is extremely disturbing, especially when the objects observed are in motion, as is the case when one is in a moving vehicle or in crowds. Visual disturbances of this nature make their appearance with rather dramatic suddenness; those affected become bewildered and confused from this sudden alteration in their vision. Frequently these persons make futile attempts to obtain glasses for the relief of their trouble, not realizing the serious nature of the disturbance.

Paralysis of ocular muscles, unless caused by injury, is a manifestation of some deeply seated disease and calls for the most painstaking invesigation to determine its exact nature. In general, it is the result of inflammation, degeneration or injury to the nerves supplying these muscles or to the brain from which these nerves take their origin. By far the most frequent cause is advanced syphilis. Other less frequent causes are multiple sclerosis, brain or orbital tumors, inflammation of the nasal sinuses, ear infections, diphtheria, diabetes, poisons and injuries.

Visual disturbances as a possible result of paralysis of any of these twelve muscles are never lost sight of by the examining eye physician. Frequently the nature of the disturbance is already suggested by the characteristic history of the complaint. In the less obvious cases special tests are employed to diagnose the nature of the disturbances and to determine the exact muscle or muscles involved.

Since the paralysis of an ocular muscle in nearly every case points to a general disease as its cause, the eye physician does not meet his full responsibility unless he urges his patient to place himself at once under the care of a competent physician.

Most cases of failing vision result from faulty shape of the eyeball, and glasses become the only proper means for correction. On the other hand, failing vision may be caused by any one of the many diseases that afflict the human body as a whole. The question that naturally arises is: How can any one whose vision begins to fail be certain in what general division his case belongs, the one where glasses are necessary for correction or the other where medical or surgical treatment is necessary? It is obvious that in order to rule out abnormality or disease, every case of failing vision, regardless of how trivial it may appear on the surface, must be approached in a thorough, scientific manner. The scientific approach to problems

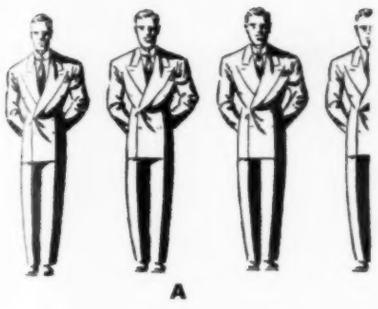
(Continued on page 183)

Let There Be Light!

I knew a child whose blind eyes sought the stars
And met no light, whose finger tips were eyes
Seeking the color of rosebuds. She faced blank skies
To feel the wind upon her face, while bars
Of darkness sealed her prisoned days. She knew
Voices, but saw no laughing eyes; knew pain
And warmth, but saw no sun or silver rain,
Nor knew when leaves were green, and skies were blue.

And then you came and clasped her groping hand;
With patient hope you led her faltering feet,
Calling all science and skill to your command—
Till she saw the stars—and living was complete!
Dear God, how can we rest, we who know light,
While one child stumbles through a starless night?

By GRACE MADDOCK MILLER



A, THE DEATH RATE OF HEART DISEASE AS COMPARED WITH **B,** MORTALITY RATE OF CANCER, ABOUT HALF; IT IS THREE AND A HALF TIMES AS GREAT AS THAT OF TUBERCULOSIS, **C.**

Public Health Aspects of Heart Disease: I

By J. HAMILTON CRAWFORD

THE IMPORTANCE of heart disease as a health and economic problem is being slowly appreciated by the public but still has not received the active attention which it rightfully deserves. The magnitude of the problem can be realized when it is found that the death rate for heart disease is twice that of its nearest rival, cancer, and about three and a half times as great as tuberculosis. Those who suffer from heart diseases greatly exceed in number those who die from them in any one year. The subject therefore merits careful consideration by every person of the community. In New York City alone, although there are at present no accurate figures, a conservative estimate would be that there are about a quarter of a million persons suffering from some form of heart disease. The probability is that a similar rate applies to northern cities in general.

In recent years many have supposed that there has been an increase in the death rate from cardiovascular disease, that is, disease of the heart and blood vessels; but a study on "Heart Disease from the Point of View of the Public Health," which was reported by Alfred E. Cohn, M.D., and Claire Lingg, M.A., in the *American Heart Journal,* throws doubts on the accuracy of this assumption. They found that, although there had been an increase in the *number* of deaths from heart diseases, the death *rate* for the different decades showed only a slight rise until the eighth and ninth, when the factor of senescence comes into play. The increase in the number of deaths from heart diseases is largely due to the fact that with improved health conditions there has been a considerable reduction in infant mortality and in the death rate from infectious diseases. Thus the average age at death has risen so that more people reach the later years of life in which the incidence of heart disease is greater. It is evident that a condition which takes such a toll becomes a serious public health problem. It must be admitted that much of the death rate is due to senescence, which is inevitable. However, when one considers the great number of individuals who suffer from heart disease in childhood and the prime of life and also the fact that the death rate from heart disease in childhood is exceeded only by tuberculosis and accidents, the situation can be seen to be sufficiently grave to deserve the greatest efforts for its amelioration. By the age of 35 the death rate has closely approximated that of tuberculosis; while after 40 it has no rival. Many of the public adopt an air of hopelessness when they discuss heart disease, feeling that nothing can be done for it. This is wholly unwarranted, as much can be done to help individuals with heart disease, and in the milder cases they can be restored to the community as useful members of society, while in the more severe grades, life can often be considerably prolonged in comparative comfort.

There are many different forms of heart disease, but four stand out as of paramount importance: (1) rheumatic heart disease, which is a disease of childhood and early adult life; (2) syphilitic heart disease, which appears usually from the third to the fifth decade; (3) heart disease that is secondary to high blood pressure, which is seen as a rule from the age of 40 on, and (4) heart disease due to arteriosclerosis, which generally occurs after the age of 60.

The importance of rheumatic heart disease cannot be overemphasized when it is realized that it is the chief cause of death in school children in New York City—with the exception of accidents among boys. It is second to tuberculosis in women between 25 and 45 and third

among men of similar age, being exceeded only by tuberculosis and accidents. It seems probable that at present rheumatic heart disease is at least as prevalent as tuberculosis in children of school age.

There are several theories as to the cause of rheumatic heart disease, but none of these has been proved. However, medical authorities agree that the disease is of an infectious nature. It is a generalized disease in which probably every tissue in the body may be involved. The early acute manifestations are as a rule in the joints; but the later most serious effects are on the heart. It is to be remembered that in the young child the joint changes are as a rule absent, and the cardiac condition may be the first indication of the disease. This probably accounts for those cases which appear with the classic features of rheumatic heart disease in which no previous history of involvement of the joints can be obtained. Another characteristic feature of the disease is its liability to recurrence. It is relatively seldom that a patient dies in the first attack. The heart is usually damaged by repeated attacks until it reaches a state in which it is unable to perform its function adequately. Recent studies have shown that the first recurrence occurs within three years in 73 per cent of the cases. This is thus the most vulnerable period. With these facts in mind it would seem that, if the problem were attacked more strenuously, much could be done to alleviate the situation.

The public does not seem to be fully aware of the menace which exists, and an active educational program should be adopted. It should be explained that if a child has had repeated respiratory infections and does not appear to be restored to his former health he should be examined to rule out rheumatic disease. Similarly if the child is below par and does not want to run with his playmates and seems nervous and jerky, such signs as take place in chorea, or St. Vitus' dance, he is in urgent need of medical attention. The fallacy of growing pains must be exploded. It must also be brought home to the parents that this is an infectious disease and that there is a danger of its dissemination among other members of the family if precautions are not taken to prevent it. Moreover, the danger of respiratory infections in an individual who has had an attack of rheumatic fever must be emphasized. On the slightest appearance of such infections the patient should be put to bed, and every effort should be made to eradicate the infection. Such a person should have a more prolonged period of rest after the infection than is necessary in the normal individual. The disease ought to be reportable, and public health authorities should investigate the home to see that proper treatment has been instituted and that the parents have been adequately instructed as to the course to pursue in the future.

ON THE SLIGHTEST APPEARANCE OF RESPIRATORY INFECTION THE CHILD SHOULD BE PUT TO BED.

It is not yet fully appreciated that the keystone of therapy in this condition is prolonged rest in bed. The child should be kept in bed for at least a month after all evidence of infection has disappeared. In younger children the sleeping pulse rate may have to be used to obtain an accurate guide. Thereafter activity must be resumed gradually, and a close study of the cardiac reaction should be made throughout this whole period. The similarity to the treatment of tuberculosis is apparent, and one feels more and more convinced that, if these cases were treated in sanatoriums similar to those used for tuberculosis, much could be done to prevent permanent damage or at least to lessen it considerably. As the first recurrence is most likely to be within the first three years, the most desirable thing would be to keep the child under this type of supervision throughout this period. It is probably hard to attain this ideal; but at least it should be approximated as closely as possible. It may be that the best place for such institutions would be in warmer climates, as it has been shown that there recurrences are much less frequent.

There is a deplorable lack of beds for the convalescent care of children suffering from heart disease. In the vicinity of New York City there are 187 convalescent beds designated for children with heart disease, and some other

convalescent homes will take a few children with the mildest grades of heart disease. However, it is the experience of social service workers that it is almost impossible to have children with cardiac diseases admitted to many convalescent hospitals. There are seventy-five beds for convalescent adult patients with all types of heart disease. Thus one can see that the problem is almost untouched.

When the child has recovered from the attack of rheumatic fever the case must still be closely followed. Even if there has been no evidence of cardiac involvement or only a slight systolic murmur, it is most desirable that from time to time for several years a close check should be made of his cardiac status. Another desirable effort would be to establish camps for rheumatic children where they could spend a month in summer under medical supervision to get them into the best possible condition to withstand the rigors of winter. Of course the ideal when circumstances permit is for the child to spend the winters in the South.

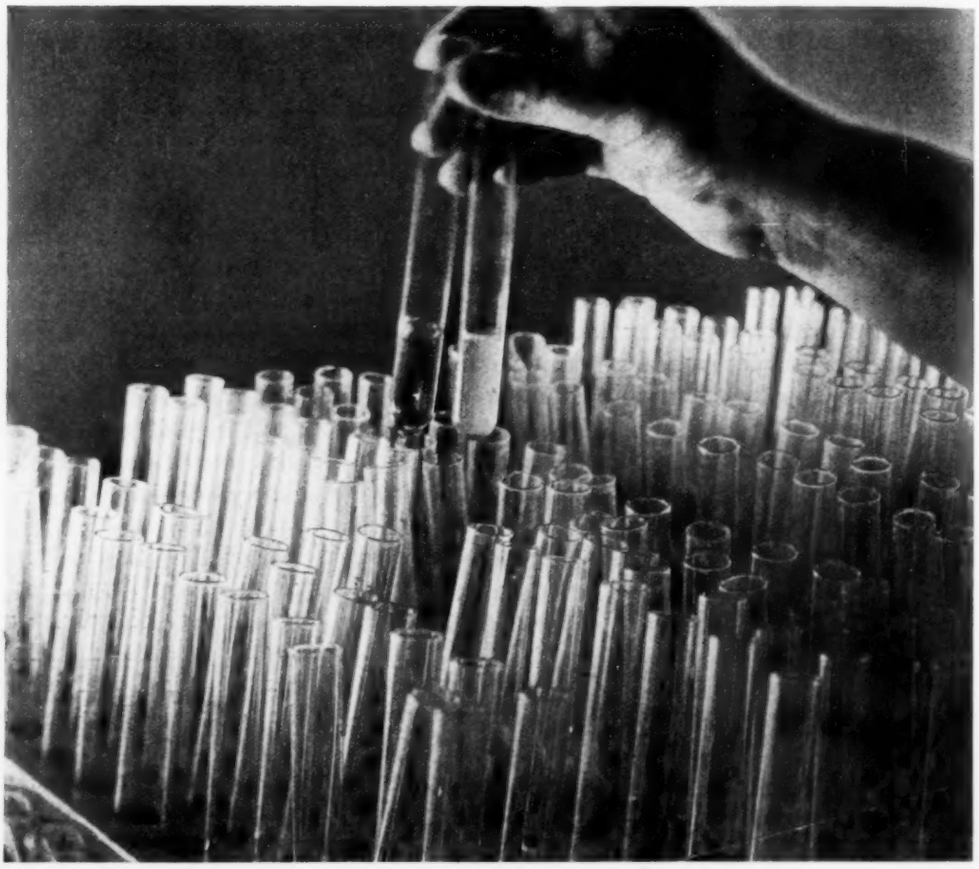
Although little has been done for children, the young adult has been neglected even still more. After an attack of rheumatic fever or heart weakness, it should be made possible for the young mother or young wage earner to receive adequate convalescent care to assure the best possible state of health before resumption of responsibilities. It will frequently be the means of staving off another break or preventing a recurrence of the infection. It would be an economic saving in the end even if their families had to be supported in the interim.

Syphilitic heart disease is the only form of heart disease in which the actual causative factor is known. As the most effective method of dealing with any disease is to eliminate the cause, it ought to be possible to eliminate this particular disease completely or at least to reduce its incidence considerably, provided strenuous methods are adopted. The time to deal with it is at its inception. Although one can sometimes arrest the progress of the disease when disease of the *(Continued on page 155)*

A LIFE OF HURRY AND STRAIN IS A POTENT FACTOR IN CAUSING HEART DISEASE DUE TO HYPERTENSION. WHEN THE HEART HAS BEGUN TO GIVE WAY UNDER STRAIN, THE PATIENT MUST LEARN TO LEAD A LESS STRENUOUS EXISTENCE. ADEQUATE MENTAL AND PHYSICAL REST IS THE KEYSTONE OF HIS TREATMENT.

BLOOD TESTS for SYPHILIS

By
JOHN A. KOLMER



RESULTS OF BLOOD TESTS FOR SYPHILIS ARE EXEMPLIFIED HERE. THE MILKY TUBE ON THE RIGHT SHOWS PRESENCE OF THE DISEASE, WHILE THE BLOOD SPECIMEN ON THE LEFT IS CLEAR AND DARK—FREE FROM SYPHILIS.

WITHOUT DOUBT, syphilis is one of the most important and widely prevalent diseases afflicting mankind throughout the entire world. It is not always a venereal disease, that is, one resulting from sexual intercourse; and the foolish secrecy and ignorance surrounding it have always been its greatest menace. Fortunately, various blood tests, the best known being the Wassermann reaction, have proved of inestimable value in its detection or diagnosis. Of course the incidence of syphilis varies greatly among different social classes; it may be from as low as 1 or 2 per cent to as high as 30 to 40 per cent; but with the aid of blood tests for its detection it has been estimated that from 8 to 10 per cent of the population of the United States, amounting to about 10 million people, are probably afflicted with the disease.

And it is safe to say that about half of its victims do not know that they have the disease or else believe that they have recovered from it. Approximately 500,000 new cases occur yearly, which is higher than the incidence of tuberculosis. About 60,000 children are born annually with congenital syphilis, which is responsible each year for about 25,000 deaths of the newborn, most of whom could be saved by the simple use of blood tests for the detection of the disease in pregnant women and adequate treatment of those found with the disease. Syphilis causes about 40,000 deaths yearly from heart disease alone, as well as about 10 per cent of the insanities. It is responsible for tremendous economic costs involved with the burden of its unemployable and disabled victims on taxpayers, hospital and philanthropic institutions.

Obviously the total cost of the disease must be greater than any national plan for its eradication, however expensive it may be. After all, this would not exceed yearly more than about one-half the cost of a single battleship and would ultimately save as much in taxes and agony as the World War cost. This is not by any means an idle dream, because a widespread educational campaign to dispel the tabu and

ignorance surrounding the disease, along with the widespread use of blood tests for its detection among all persons regardless of social status, followed by prompt and adequate treatment of the afflicted, would inevitably and progressively reduce its prevalence with the hope of its ultimate eradication as one of the great cripplers and destroyers of mankind.

Syphilis is caused by a specific germ called Spirochaeta pallida, and in about one out of every ten cases it is the result of infection from kissing, from the use of contaminated drinking and eating utensils, from congenital transmission or from means other than sexual contact. Unfortunately, its onset may be without symptoms, or these may be so insignificant as to escape attention; so about 40 per cent of persons with the disease may be totally ignorant of having contracted it. Approximately one out of every three cases, involving about one third of the men and nearly one half of all women with syphilis seen by physicians, are in the hidden or so-called latent stage, during which general health is likely to be satisfactory with no symptoms or physical signs to excite suspicion of its presence.

Fortunately, however, as previously stated, reliable blood tests are now available for its detection when this may not be otherwise possible. In the first or primary state of the disease, when a sore, or chancre, may be present, laboratory diagnosis is best made by a special microscopic examination for the germ itself rather than by a blood test. This early diagnosis is highly advisable, since adequate modern treatment at this time results in complete cure in about 90 per cent of cases. But after this stage the blood tests are of inestimable value and may be the only means for the detection of the disease at a time when prompt and adequate treatment is most likely to result in what is known as clinical cure by preventing its progression to the crippling and fatal later effects as well as by preventing its transmission to the newborn. These tests are not for the detection of the germ itself in the blood but rather for the detection of one of its products, a chemical

WHEN A SORE, OR CHANCRE, IS PRESENT, LABORATORY DIAGNOSIS IS BEST MADE BY A SPECIAL MICROSCOPIC EXAMINATION OF THE GERM ITSELF INSTEAD OF BY A BLOOD TEST. THIS MUST BE DONE AGAINST A DARK FIELD IN ORDER TO SHOW THE PALE SPIROCHETE.

Photos courtesy of U. S. Public Health Service

substance called antibody or reagin, which is produced by the germ in the tissues and organs of the body and finds its way into the blood. Sometimes, and especially in syphilis of the brain and spinal cord, it may not be found in the blood at all but only in the spinal fluid, so that in some instances an examination of this fluid may be required for the final diagnosis.

The tests require only a small amount of blood, which can be removed from a vein at the elbow with practically no pain and with absolutely no harmful effects. Unfortunately, however, the tests are complicated and difficult to perform, so they are best conducted by skilful and experienced workers in well equipped laboratories. Technical errors may result in falsely positive reactions in the best of laboratories but especially when the tests are conducted in a hurried and unskilful manner by careless and inexperienced workers. Therefore a single positive reaction is not by any means usually sufficient for establishing the diagnosis of syphilis, and especially is this true when the reaction is only weakly positive. Under these conditions the test should be repeated one or more times before so important a diagnosis is made, and it is always advisable to test every specimen of blood by at least two methods at the same time. The chance of a mistake in these blood tests when properly conducted is probably so small as to be negligible. Furthermore, there is not the slightest evidence that conditions like tuberculosis, pregnancy, diabetes or anesthesia give positive reactions in the absence of syphilis when the tests are properly conducted. In the United States the only diseases that will give falsely positive reactions are leprosy, malaria, glandular fever or infectious mononucleosis, and possibly relapsing fever, and when these diseases are excluded, positive reactions and even weakly positive reactions indicate the presence of syphilis. These diagnoses may then be thoroughly relied on if made by skilful, careful and experienced workers.

Unfortunately, however, the blood tests are not sufficiently sensitive to detect all cases of syphilis. The disease must be present at least two or three weeks before enough reagin finds its way into the blood to give positive reactions. But after this time the present day tests give positive reactions in at least 90 per cent of cases *when properly conducted.* However, this leaves at least from 5 to 10 per cent of persons in the chronic stages of the disease whose blood may give falsely negative reactions, so that individuals should not always depend on the tests alone for the detection of the disease and especially when in ill health or when congenital syphilis is suspected. In spite of negative Wassermann reactions, a thorough examination by a physician is frequently required; he may then find evidence of its presence and institute proper treatment to the great advantage of the patient.

In early syphilis the reactions generally become negative after from one to two years of adequate modern treatment; but a single negative reaction is not sufficient evidence of cure. The tests should be repeated twice a year for several years at least and remain persistently negative along with the complete absence of all symptoms of the disease before complete cure can be said to have been attained. If a positive reaction recurs later, it means that the disease has relapsed; this generally requires a resumption of treatment.

In chronic syphilis, however, the tests may continue to give positive reactions even after one or more years of thorough treatment, although in many cases they gradually become negative after one or two years of adequate modern therapy. But even if the blood reactions remain persistently positive under these conditions, the majority of patients need not feel any particular concern or worry, especially if they are in good general health, as their chances of remaining well and living the full span of life are generally good. It would be advisable, however, to take one or two short courses of treatment yearly for several more years as an additional safeguard against recurrence or relapse of the disease. Certainly there is no need for continuing treatment merely to obtain negative blood reactions, and marriage under these conditions is frequently permissible because there is so little danger of transmission of the disease to husband or wife and offspring. The sound judgment and advice of an experienced physician is required for reaching decisions under such circumstances. And it must not be forgotten that persons recovering from the disease may acquire a second attack, and indeed it may be possible for individuals to get a second attack before they have been cured of the first.

Since syphilis is widely prevalent, since morals and social status are no barrier to its contraction, and since so many individuals may be afflicted with no knowledge of having contracted it, all adults should be encouraged and indeed urged to have a blood test taken. Especially is this necessary before marriage, during pregnancy and in ill health. Modern adequate treatment offers much hope not only for curing syphilis completely in the early stages but even, when chronic, of preventing its progression to the dangerous and crippling later effects which are so liable to shorten life.

SOUND MINDS in SOUND BODIES

By FRANCIS J. SCULLY

THERE IS no doubt that the child's health during the period of his growth is of the greatest importance in his mental development. While a sound structural development of the brain and nervous system is necessary for the fullest attainment of normal mentality, it does not necessarily guarantee that that development will be normal. Other factors must be considered. However, a sound body is more likely to be associated with normal intellectual advancement and the proper functioning of the mind; and for this reason every effort should be made to protect and maintain the child's health during the growing period and during the time of his most active mental progress. This period may not be a time of great mental achievement, but it is the time when mental habits are established and emotional responses are put under control. It is true that good health and good mental development go hand in hand, but normal function and emotional control depend on good example and proper training as well. The proper functioning of the mind is just as vital as sound structure for normal growth to take place.

Intellectual development alone must not be considered the standard of normal mental development. There should be proper emotional advance and adjustment as well, so that the individual can function normally in his contacts with others. A person may be highly educated and yet not have normal mentality, for he may use his intellectual attainments for criminal or antisocial purposes; or through poor emotional control he may fail to achieve a satisfactory place in his environment. Sound mental development, therefore, includes both the intellectual and the emotional phases.

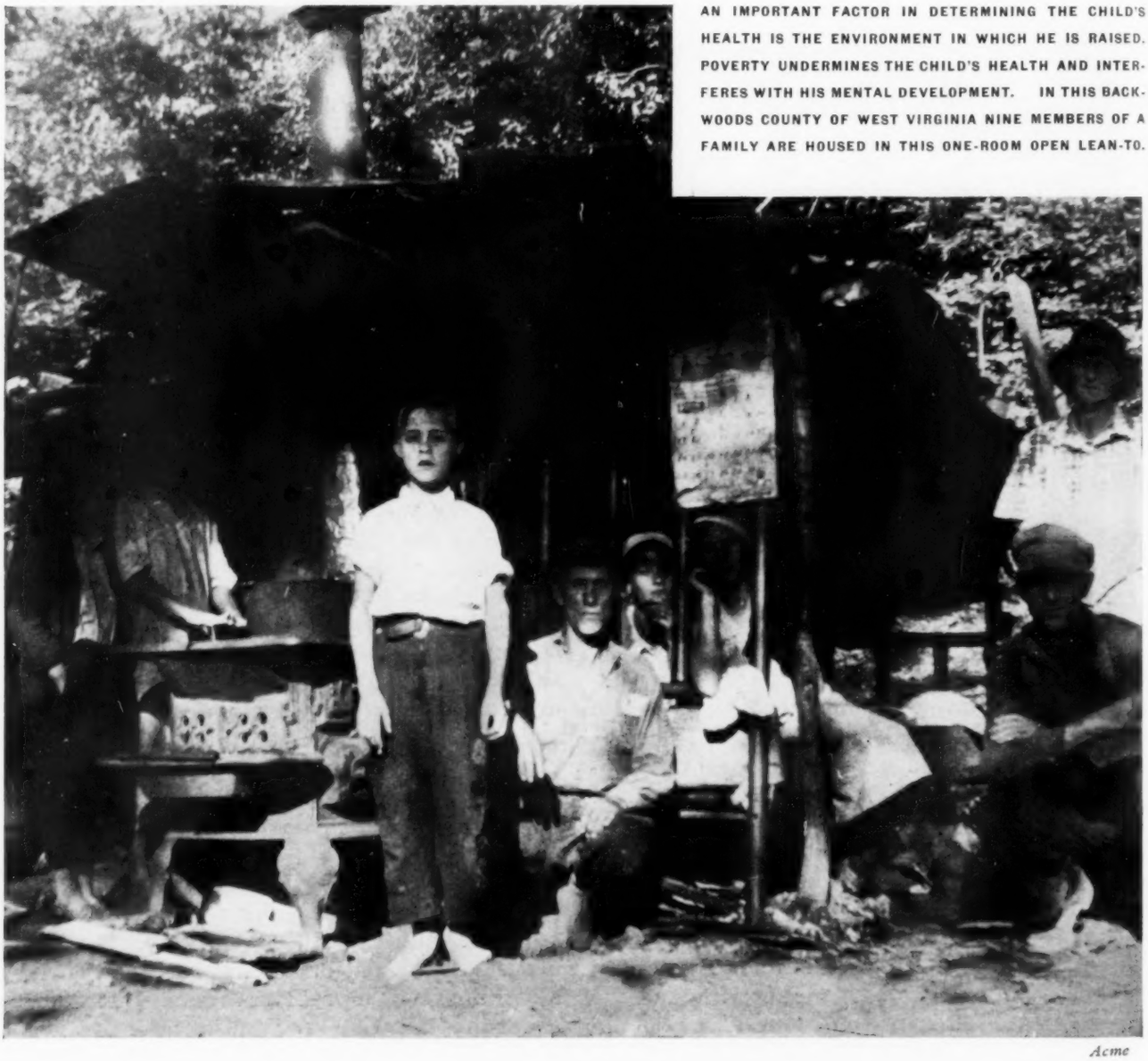
At birth an individual has certain definite possibilities for physical and mental progression depending on the health of his parents and the hereditary potentialities coming from his ancestors. If the health of the parents is good and their advance in mentality ordinarily sound, the child should have a good chance of developing normally. On the other hand, if the parents are diseased or mentally deficient there is a decided possibility of the child inheriting such weakness and failing to improve. Certain outstanding examples of this inheritance have been reported. It is particularly well illustrated in the Jukes family, which has been followed through many generations, showing the failure of mental development in the children and the burden that has been placed on the community in which they lived. For this reason insane and feebleminded individuals should not be allowed to marry and have children. Some states have already passed sterilization laws, and with further education of the public as to the necessity and wisdom of such sterilization more states will be likely to adopt it. The first requirement, therefore, for sound mental development is to have parents who are sound mentally and physically. More interest is being taken in eugenics. Many states now require health examinations before a marriage license will be issued. This is a step in the right direction. It is a problem for the state as well as for the individual, for the state does not want

more defective or mentally incompetent individuals who must be supported at public expense.

Any illness or diseased condition of the body has the possibility of damaging bodily structure sufficiently to interfere with normal growth and may greatly influence mental proficiency. These residual changes may be of a general nature such as anemia, exhaustion, low blood pressure or impaired circulation. Under such circumstances mental progress is slower or may fail to take place at all. In certain sections of the South where malaria and hookworm are prevalent the children are stunted physically and show poor mental development. Where sanitary measures have been carried out and these diseases have been controlled, if not wholly eliminated, the children show better health, more alert minds and better mental coordination.

Certain disorders of the ductless glands, whether resulting from illness or from faulty development, may greatly influence growth and mental advancement. This is especially true in cases in which the thyroid does not function properly from birth. The child remains a dwarf and does not develop mentally. Such children are called cretins. With the use of thyroid extract, marked improvement is possible in such cases. Pituitary disturbances in some instances cause a similar disturbance with marked obesity and impaired mental proficiency.

Diseases such as meningitis and encephalitis, which affect the brain itself, are likely to interfere with normal mental development because of the changes they produce in the brain structure itself, both as a result of the inflammatory reaction when the disease is active and from the scarring which follows. It seems that there is always some residual alteration of the mind



AN IMPORTANT FACTOR IN DETERMINING THE CHILD'S HEALTH IS THE ENVIRONMENT IN WHICH HE IS RAISED. POVERTY UNDERMINES THE CHILD'S HEALTH AND INTERFERES WITH HIS MENTAL DEVELOPMENT. IN THIS BACKWOODS COUNTY OF WEST VIRGINIA NINE MEMBERS OF A FAMILY ARE HOUSED IN THIS ONE-ROOM OPEN LEAN-TO.

Acme

following such an illness, though it may not always be apparent. It may be so slight as to escape notice. There may be only a little more difficulty in grasping ideas or in remembering things, or it may be shown in emotional upsets. On the other hand it may be serious enough to cause a total failure of increase in mentality, leaving the child feebleminded.

In recent years public health measures to prevent disease, to stop its spread and to improve the general health of the people have received support in many communities. Many such measures are national in scope and are under control of the United States Public Health Service. Prevention of disease has been found to pay dividends in better health. Mention of only a few of these measures will show how valuable they have been. Vaccination against smallpox, typhoid and diphtheria has greatly reduced the number of individuals affected by these diseases and has greatly reduced the severity of the disease when it has been contracted. Isolation of contagious diseases, control of water supplies and pasteurization of milk have all been helpful. Diseases which were once the dread of every community are now better controlled. Typhoid and malaria have been greatly reduced. Tuberculosis has lost its place as one of the greatest causes of death. Better understanding of the nature and transmission of contagious diseases, enforcement of sanitary measures, better protection of water supplies, proper disposal of sewage and better methods of preserving foodstuffs have all contributed to this great improvement of health in our nation. This is one of the great and outstanding accomplishments of the present century.

Faulty vision and defective hearing often create great difficulty for the child, especially in his school years. They are difficult to detect when the child is young but should be looked for when the child does not do well in school. Such conditions may cause sufficient interference with the child's progress in school to lead one to believe that the child is feebleminded; whereas the defective hearing or vision has rendered him unable to grasp the subjects. Correction of these physical defects will sometimes make a striking change in the child's personality as well as in his ability to learn; the unruly, inattentive child often becomes a model scholar.

Nervousness, which is more properly described as a functional disorder rather than a disease, may cause marked interference with the child's mental development. This condition generally comes from poor emotional control, as a result of improper example given by the parents or from poor supervision of the child's habits. In some cases there may be a physical cause which needs correction. Nervousness often results in abnormal behavior reactions, which make it extremely difficult for the child to accommodate himself to the routine of school work. Such cases require careful attention from the parents to enable the child to overcome the nervousness and evolve normal reactions to his environment.

Injuries to the head are often complicated by brain damage. During the child's early years it is not unusual for him to take many tumbles and perhaps bump his head. Generally he does not harm himself, but occasionally there may be serious damage. Perhaps the greatest possibility for damage to the brain of the child is during birth, particularly if forceps are used. As a rule these injuries are not serious, but they may leave lasting damage. They are now guarded against as far as possible by better supervision at birth and better care when they do occur. More serious damage, however, follows accidents. With the increased use of automobiles, injuries to children playing in the streets are all too frequent. Many have serious head injuries with their resultant interference with mental development. Some regulation is necessary to reduce this increasing number of automobile accidents which occur day after day, taking their toll of children as well as of adults.

In addition to the direct effects of injury and illness on the body, there are other effects which may greatly interfere with normal mental development, not so much in the intellectual field as in the emotional sphere. Deformities, especially facial scars, following injuries are a serious handicap. Shrunken limbs following infantile paralysis and humpback following tuberculosis of the spine likewise cause trouble. Harelip, clubfoot and extensive disfiguring birthmarks must also be mentioned in this connection. All these produce emotional strain. The child finds it difficult to adapt himself to his physical deformity. Many shrink from contact with other children because of criticism of their disability or because of fun made of their deformity.

Occasionally an individual overcomes his handicap and achieves outstanding success in his mental attainments. Steinmetz, who had a deformed body, gained such remarkable success in his field of electrical engineering that his poor body was overlooked. Theodore Roosevelt, who was a frail child, surmounted his disability and made an outstanding success in his physical condition as well as in his mental development. Helen Keller was able to achieve

good mental proficiency in spite of her great handicap. However, these are exceptional cases. But it shows what can be done if sufficient attention is given to its accomplishment. Most children with these handicaps avoid social contacts and develop an inferiority complex, never realizing the possibilities that they might achieve. It takes special guidance from the parents and teachers to help the child overcome such difficulties and attain normal mental growth.

The growth of the child often presents a serious problem. The child finds it difficult to adjust himself to the changes occurring in his body. He becomes awkward in using his hands and feet, as he does not have time to get used to their size before they grow larger. He may become oversensitive about this awkwardness and the size of his body in comparison with other children of the same age. Growth is more rapid between the ages of 10 and 15, at the time of puberty, when there are also important glandular changes taking place with their powerful influence on the body and the emotions. The child needs help and sympathetic understanding to develop a proper mental attitude to these changes and to help himself control the new emotions he is experiencing. At this time proper instruction in sexual problems as well as the dangers of venereal diseases should be given, if that has not already been done. This is receiving much attention at present and justly so, because it is vitally necessary for the child to understand himself and to know the damage that such diseases may do to his health and the resultant interference with his mental development.

With the increased use of alcohol and tobacco by both men and women, consideration must be given to these two drugs which so greatly affect the health of the growing child and his mental development. It has *(Continued on page 167)*

The Doctor Tells a True Story—

ONCE THERE WAS A BOY WHO GRADUATED FROM SCHOOL AND TOOK A JOB IN A FACTORY----
MEN WANTED
AFTER A FEW WEEKS--
I'M DOIN' PRETTY WELL -NOBODY'D EVER BELIEVE THAT I NEVER RAN ONE OF THESE BEFORE!
FINGER TIP BADLY SMASHED-BONE CHIPPED---HM-M-M--YOU HAVEN'T BEEN WORKING LONG IN THE FACTORY, HAVE YOU?
N-NO SIR!
YES SIR!
NOW, MY BOY, KEEP THIS BANDAGE ON 'TILL YOU SEE ME AGAIN
SOME TIME LATER IT "DOESN'T HURT ANY MORE"--AND SO----
THIS THING'S A NUISANCE--I'M GOING TO TAKE IT OFF NOW!
THEN
INFECTION
O-OH! MY ARM!
FIRST AID
I THINK WE'LL SAVE THE ARM AND THE FINGER-- NOW, MY BOY, BE CAREFUL, REMEMBER THAT GERMS ARE DANGEROUS!
THANKS, DOCTOR, I'VE LEARNED A REAL LESSON--THOSE GERMS ARE SMALL, BUT THEY CAN CAUSE A LOT OF TROUBLE!
Lavette Wilson

When a Child and His Tonsils Are Parted

The Procedure Explained in Detail for Mothers—and Others

By ROBERTA W. HILL

THERE COMES a time in most youngsters' lives nowadays when the doctor says, "Better have his tonsils out." The child may have had repeated attacks of sore throat or never a sore throat in his life; but whatever the history, when your family physician, in whose judgment you presumably have confidence, says they should come out, by all means follow his advice and have them out.

As this is often a child's first experience with a hospital, it is up to his parents to make it as pleasant as possible and to see that it does not cause undue dread or terror to be associated with that institution.

Your doctor will recommend a surgeon to do the job, or he may do it himself. If some one else is to do it, see that the child meets him and has a few minutes to become accustomed to him before the operation. As with all illnesses, parents should consider the operation as a matter of course and treat it as something to be gotten over and forgotten as soon as possible and not as something extraordinary to dwell on for months before and months afterward.

After you have told the doctor what accommodations you can afford, he will make the necessary arrangements with the hospital. If the patient is very young it is far better for the mother to remain

THE DOCTORS AND NURSES IN THE OPERATING ROOM WORK FAST AND SKILFULLY, AND THE OPERATION IS OVER IN A FEW MINUTES. CLOTHING AND EQUIPMENT ARE STERILIZED, AND THE DANGER OF INFECTION IN A TONSILLECTOMY DONE IN A HOSPITAL IS APPROXIMATELY NIL.

overnight with him in the hospital so that he will not get panic-stricken when a strange nurse answers his whimperings. A child of school age can be reasoned with and is perfectly safe in the hands of a competent nurse.

If you can afford a special nurse, by all means have one, for she can contribute much to the comfort of the patient; but if not, don't worry about it, for your child will be adequately taken care of by the hospital staff.

Little things make all the difference between a happy, cooperative patient and a howling, bothersome youngster. Let the child select the pajamas or gown he wants to take, and let him take a few small favorite toys, such as flashlight, auto or doll. Anything he is thoroughly familiar with will comfort him in strange surroundings. Above all, let him leave home and enter the hospital with a smile.

Let him carry his admission card, and tell him to take care of it until he finds the nurse to whom he is to give it. Even if he is only 3 years old he will welcome the responsibility, and he will be doing something instead of blindly waiting for something, about which he knows very little, to be done to him.

Let him undress himself, if he knows how, while the nurse is with him and while he is becoming accustomed to her. Point out the humor in the open-backed operating gown, and tell him he is going to sleep and when he wakes up he can put his own pajamas on. Tell him that his throat will be sore, but that it won't be any worse than his previous illnesses and that he can soon have ice cream to eat; but don't tell him it won't hurt a bit. He won't trust you again if you do, and a child old enough to have his tonsils out can stand the truth better than the shock and surprise of a sore throat.

In most hospitals the anesthetic is given in a separate room, and the table with the patient is

then wheeled into the operating room. Thus the patient does not see any instruments and remembers only the small room with the nurse and the anesthetic. The anesthetist will show him the balloon and the gas, and the child should lie down without a protest, although some children object to the feeling of suffocation when the mask is adjusted. If the child kicks or starts to cry, don't become alarmed. The nurse and doctor are perfectly capable of handling him, and in a few seconds he will be completely unconscious, peacefully sleeping. Local anesthesia is not used in operations on small children.

The doctors and nurses in the operating room work fast and skilfully, and the operation is over in a few minutes. Masks, gowns, caps and instruments are sterilized, and the danger of infection in a tonsillectomy done in a hospital operating room is approximately nil.

Don't be surprised if your child comes from the operating room with his eyes open. He probably is still asleep, but children frequently keep their eyes open under anesthesia. He may be crying or moaning or merely snoring peacefully, but he hasn't the foggiest notion what it is all about—yet. When he starts to come to, he may spit up some blood, but the nurse will watch carefully to see that there is no hemorrhage. A careful surgeon will have taken a coagulation test previous to the operation; and if there is a tendency of the blood to be slow in coagulating, he will know it and be prepared.

If the operation is done in the morning, as most are, the patient can expect to stay in the hospital that night and be ready to go home the following morning. Thus there is a charge for only one day in the hospital.

After a visit from the doctor the following morning, the child will have no difficulty in going home. You should keep him in bed the first day, reading to him, playing with small toys and amusing him so that there will be little occasion for him to use his throat.

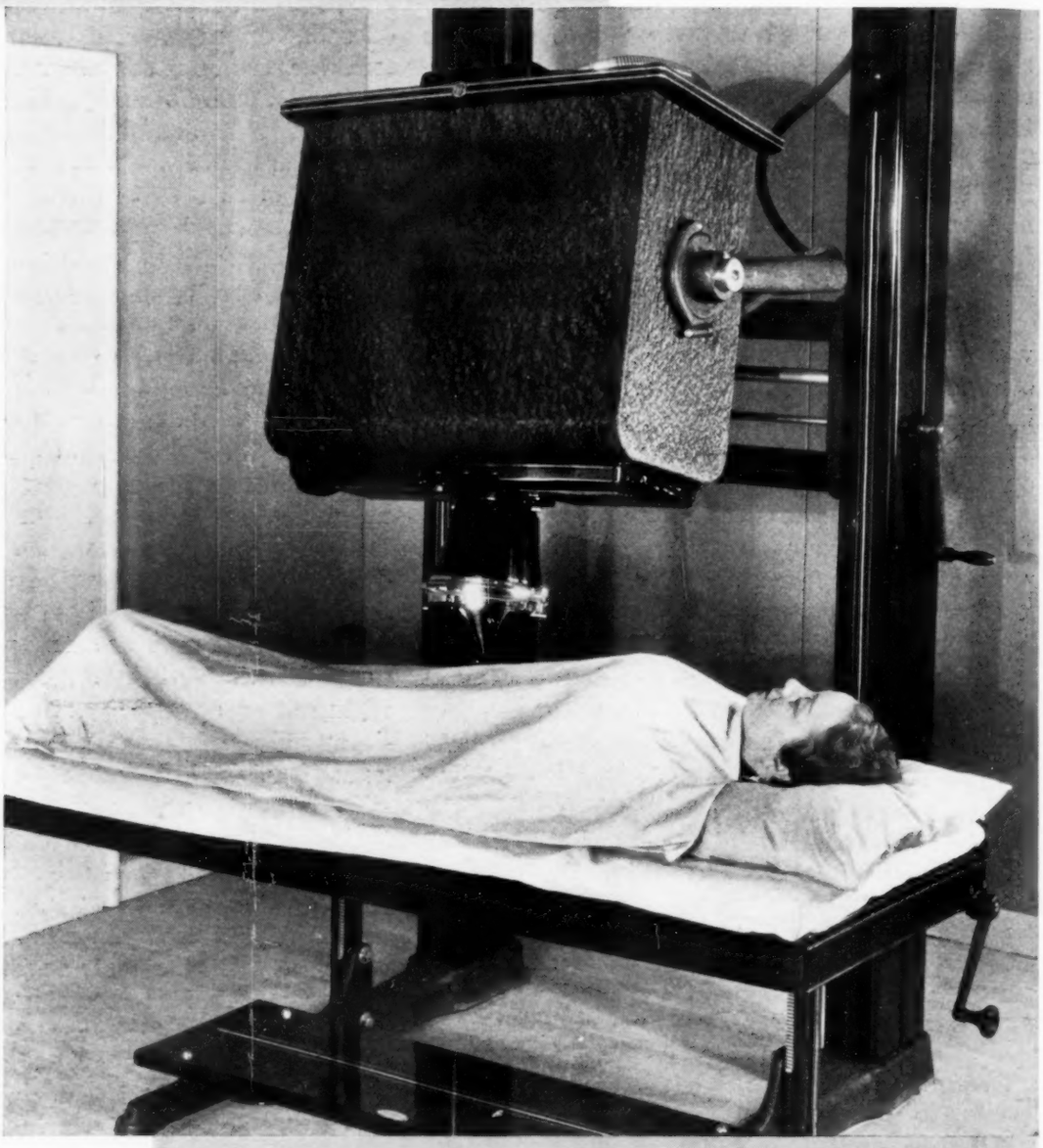
The subsequent visits to the doctor will be governed by his requests, but in two or three days the child will be wanting to ride his tricycle and go out to play. Guard against strenuous play at first in order to avoid any heart strain. Do not hesitate to let him out in the warm sun, of course keeping him from getting chilled or wet. Ask the surgeon for any specific advice you may need.

A month or so after the operation, the child will have completely recovered and will be bragging to other children about his experiences.

TELL HIM THAT WHEN HE WAKES UP HE CAN PUT HIS OWN PAJAMAS ON AND THAT HE'LL HAVE GOOD THINGS TO EAT. HE'LL HAVE FUN, TOO, IN POURING HIS OWN MILK FROM A LITTLE GREEN POT.

HODGKIN'S DISEASE

By S. GINSBURG



IT IS THE SELECTIVE ACTION OF THE X-RAYS ON OTHER TUMORS WHICH HAS ENABLED RADIOLOGISTS TO UTILIZE THIS RESPONSE TO X-RAYS IN DIAGNOSING AND TREATING HODGKIN'S DISEASE.

ON SUNDAY, Dec. 19, 1937, the newspapers carried headlines announcing that Robert Worth Bingham, United States Ambassador to England, was dead. He died four days after a diagnostic operation for an obscure abdominal tumor, which on microscopic examination was discovered to be Hodgkin's disease.

The news of Ambassador Bingham's death, which greatly shocked his many friends in high governmental and social circles, was also a great shock to many members of the medical profession. In a startling and striking manner, it emphasized once again the stealthy and treacherous course which Hodgkin's disease may pursue in some individuals.

It was in 1832 that an English physician, Thomas Hodgkin, first described the disease that now bears his name. In his original series of patients the disease appeared to be a specific tumor-like swelling of the lymph glands, the spleen, the tonsils and the lymphoid tissues at

the base of the tongue and throat. Further observations by other physicians established the fact that Hodgkin's disease is not confined to these organs and tissues. As far back as 1879, Dr. Gowers of London in his comprehensive study of Hodgkin's disease recorded its invasion in the skin, intermuscular tissues, bones, brain, soft palate, throat, tonsils, esophagus, stomach, small intestines, large intestines, liver, pancreas, peritoneum, thyroid gland, thymus gland, trachea, lungs, pleura, diaphragm, pericardium, heart muscle, suprarenal glands, kidneys and male and female sex glands.

Parellel with these observations many students of Hodgkin's disease had also noted that, although the disease usually first discloses its presence by a painless swelling of the lymph glands of the neck, of the armpits or of the groins, such swelling may appear primarily in the lymph glands of the abdomen or chest cavity. Indeed, it may even attack predominantly or primarily any of the important internal organs and tissues of the body with little or no evidence of invasion of the external or internal lymph glands. Nor does Hodgkin's disease always manifest itself in the form of a swelling or tumor growth. It may grow as a diffuse infiltrate in organs and tissues and simulate a variety of other diseases. Its detection then may be extremely difficult. This difficulty may be further enhanced by the fact that, in addition to compression, invasion, replacement and destruction of vital organs, Hodgkin's disease in its growth and evolution undergoes degeneration and destruction of its component cells. This cell débris, when absorbed by the blood and carried to the body cells and tissues, gives rise to fever, chills and sweats, wasting and anemia, as occurs in any infectious disease in which the body is poisoned by waste products of bacterial activity. Indeed, there are records of many cases of Hodgkin's disease in which for many months no external or internal tumors or swellings could be detected on physical or x-ray examination and in which the only manifestations of the disease were recurrent attacks of fever, chills and sweats, wasting and anemia, pains in the bones or in the interior of the body cavities and itching of the skin. At times such patients reached an advanced stage of the disease or even died before a diagnosis was made.

Such delays or failures in diagnosis are not always avoidable even in the hands of experienced physicians. For, unfortunately, up to now the cause of Hodgkin's disease remains unknown, and there is no other specific diagnostic test for the disease except the excision of a piece of the diseased tissue and its microscopic examination by an expert pathologist. Such a diagnostic procedure can readily be resorted to when the disease invades superficial or easily accessible lymph glands or tissues of the body. It becomes a difficult, if not an insurmountable problem, however, when the disease invades primarily the internal organs or tissues. For what patient would readily submit to such a serious and drastic method of diagnosis as opening up the chest (thoracic) cavity, the abdominal (peritoneal) cavity and the spinal and brain (dorsal) cavity on the mere suspicion that he is suffering from Hodgkin's disease?—a disease for which up to the present time no specific method of treatment or cure has been discovered. For neither drugs nor the surgeon's knife has proved of much curative value against this disease, and the only form of treatment that has been found effective against it, namely the x-rays and radium, is valuable only in relieving pain and prolonging life for many months and years but has seldom achieved a permanent cure.

However, while the diagnosis of Hodgkin's disease, when it primarily attacks the internal organs and tissues, is a difficult task, it is by no means an insurmountable one from a practical standpoint. In many instances it can be solved by means of the biologic-diagnostic x-ray test. This test is based on the observation made more than a quarter of a century ago that, when different cells and tissues are exposed to the same dose of x-rays, the effect is not the same. The same quantity of x-rays which causes death and dissolution of sensitive cells, such as lymphoid, bone marrow, reticulum and sex-gland cells, leaves unaffected or only slightly affected other types of cells, such as those of the skin, of the connective tissues, of the bones and muscles. This selective action of the x-rays on cells of healthy and diseased tissues has served as the basis for x-ray treatment of many types of tumors, cancers or inflammation, which disappear without damage to the healthy surrounding tissues. It was also this selective action of the x-rays on different types of tumors which has enabled the radiologist to use the biologic response to a unit dose of x-rays as an index to the nature of the tumor when a microscopic examination was not readily available, as would be apt to be the case in dealing with tumors or suspected tumors in the chest cavity, the abdominal cavity and the spinal and brain cavity.

The great value of the biologic-diagnostic x-ray test as a means of diagnosing suspected Hodgkin's disease in inaccessible regions was recognized by radiologists many years ago. In

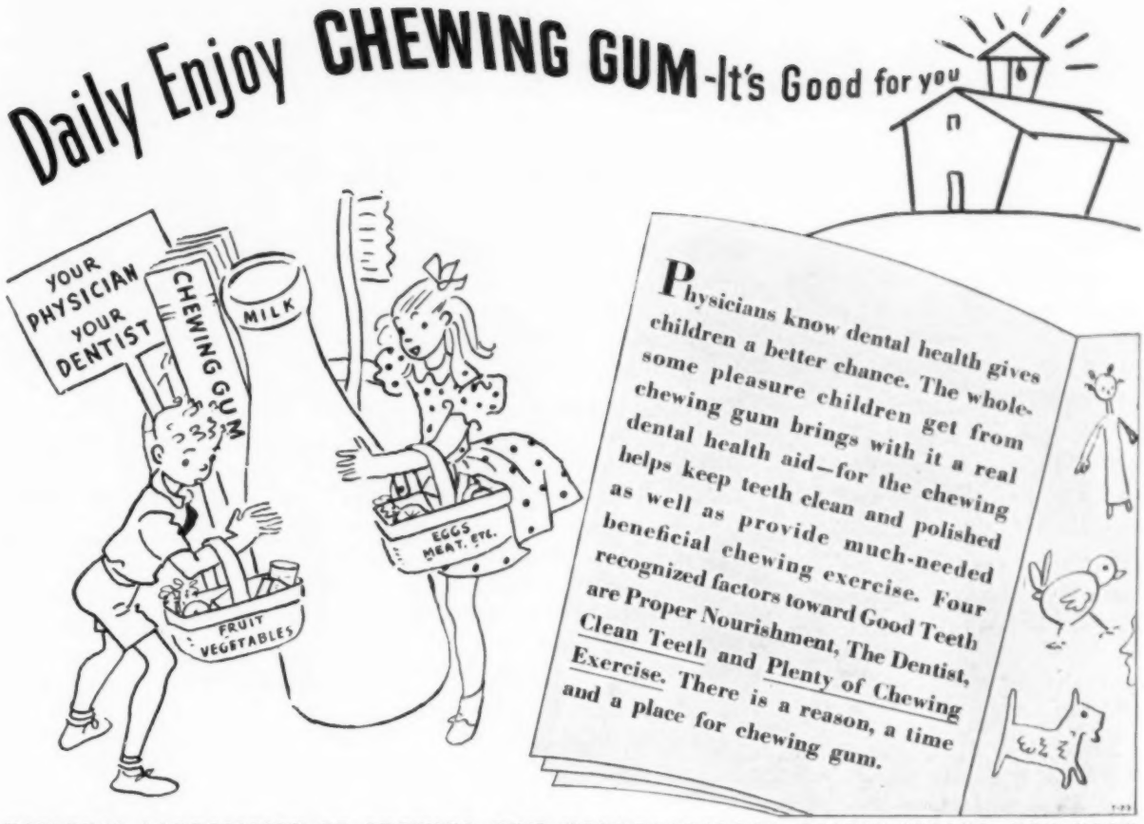
a special study, as far back as 1925, the fact was stressed that Hodgkin's tumors disappear within a few weeks following the administration of from 90 to 100 per cent skin unit dose of the x-rays over the tumor. A patient had a swelling inside the chest, which was suspected to be a Hodgkin's tumor. There was no external swelling from which a piece of tissue could be obtained for microscopic examination, and it was therefore decided to resort to the use of the biologic-diagnostic x-ray test. The patient's condition was so desperate that oxygen inhalations had to be administered during the x-ray exposure. After the treatment, there was prompt improvement, and six weeks following the treatment no trace of the tumor could be detected. Later, Hodgkin's swellings appeared in the glands of the neck; but these were also successfully treated, and the patient remained well for a period of nearly three years.

As a further illustration of the great value of the x-rays not only for the treatment of Hodgkin's disease but also as a biologic-diagnostic test for suspected Hodgkin's disease in the abdominal and spinal cavities, the following case is of great interest. A boy of 14 had an enlargement of the lymph glands in the right side of the neck, which on microscopic examination was found to be Hodgkin's disease. Following x-ray treatments, the swelling disappeared. For the next eight years the patient enjoyed excellent health. Then a constant dull aching pain set in in the abdomen, and physical examination revealed a large mass in the stomach region. After x-ray treatments, the mass in the abdomen disappeared, and the symptoms were relieved. Eight months later, sharp, shooting pains radiated from the shoulder blades into the chest. Six weeks later, there was complete paralysis downward from the middle of the chest. Following further x-ray treatments, the patient gradually regained the ability to walk.

The application of the biologic-diagnostic x-ray test to a case in which invasion of the brain by Hodgkin's disease was suspected is illustrated by the following observation: In the summer of 1925, Isidor D., aged 37, noticed a painless progressive swelling of the glands in the right side of the neck. Six months later, microscopic examination of a piece of excised gland revealed the presence of Hodgkin's disease. Following a series of x-ray treatments, the swelling completely disappeared.

The patient felt entirely well for the next three and a half years until the summer of 1929, when he began to have severe attacks of pain in the right side of the head, face and neck. There was no external swelling. The attacks of pain kept recurring and a few months later were accompanied by vertigo and occasional unconsciousness. These attacks kept recurring with increasing severity until February 1930, when he was admitted to a hospital for the removal of a piece of tissue from a swelling in the right tonsil. The examination failed to reveal any tumor or Hodgkin's growth. For the next four months, he was treated medically without any improvement. Finally, in May 1930, the suspicion of Hodgkin's invasion of the brain was aroused, and he was given a few x-ray treatments. The dose, however, was apparently inadequate, for the attacks of severe pain in the right side of the head and face and the spells of unconsciousness kept recurring with unabated severity. In July 1930 he was much emaciated, and the right side of his face was sagging from paralysis of the right facial nerve. There was no external swelling, and there was no evidence of Hodgkin's invasion in the chest or abdomen. Because, however, Hodgkin's invasion of the brain was suspected, he was given a series of biologic-diagnostic x-ray treatments, calculated to affect deep-seated and well entrenched Hodgkin's disease. Within a few weeks after the x-ray treatments were started, the pain in the head and face completely disappeared, and the attacks of unconsciousness failed to return. When last seen in April 1931, his general condition was improved, and there was no recurrence of brain symptoms.

To sum up, Hodgkin's disease most frequently manifests itself by a specific swelling of the lymph glands and spleen. However, its malignant invasion is not confined to lymphoid organs and tissues. It may invade primarily or predominantly any organ or tissue in the body. It is associated with fever, wasting and anemia. There is no other specific method of diagnosis except a microscopic examination of a piece of excised diseased tissue. The cause of Hodgkin's disease is unknown. There is no specific method of treatment. The most effective form of treatment is by means of the x-rays and radium. Whenever Hodgkin's disease is suspected in inaccessible regions, great aid may be derived from the biologic-diagnostic x-ray test. This test is not as specific as the microscopic examination. Other malignant tumors may, at times, also disappear after such a diagnostic test. It is best, however, to have a well patient and a doubtful diagnosis than to have a positive diagnosis at great risk to the patient's life or welfare.


Daily Enjoy CHEWING GUM-It's Good for you
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Physicians know dental health gives children a better chance. The whole-some pleasure children get from chewing gum brings with it a real dental health aid—for the chewing helps keep teeth clean and polished as well as provide much-needed beneficial chewing exercise. Four recognized factors toward Good Teeth are Proper Nourishment, The Dentist, Clean Teeth and Plenty of Chewing Exercise. There is a reason, a time and a place for chewing gum.
NATIONAL ASSOCIATION OF CHEWING GUM MANUFACTURERS, STATEN ISLAND, NEW YORK

PUBLIC HEALTH ASPECTS OF HEART DISEASE

(Continued from page 141)

principal artery, the aorta, appears, the structural damage is so severe that one cannot restore the heart and the blood vessels to normal. All that can then be done is to postpone the inevitable.

Previously much of the difficulty arose from a sense of false modesty; the problem was not brought into the open and was masked in public discussions under such synonyms as social disease. In many instances the public did not recognize what was being discussed. Recently an intensive drive has been instituted against the disease by the health authorities under the direction of the U. S. Public Health Service, and this will undoubtedly show its benefits in the future. By education the ravages of the disease can be brought home to the public.

Its greatest incidence is in early adult life, so it will be necessary to start this education during adolescence. When the severe effects, such as general paralysis of the insane, locomotor ataxia and incurable heart disease, which take place years after the initial lesion, are adequately explained, an understanding of the facts should be a deterrent to the acquisition of the disease. It should be made rigidly reportable. There has accumulated fairly good evidence that with intensive prolonged treatment the disease once acquired can be eradicated. It behooves an infected person to seek immediate treatment and to continue until it is considered by his physician that this has been adequate. It is doubtful however whether it is sufficient to leave this to the volition of the patient because, judging by the present status, it would seem that the public must be compelled to have adequate treatment for their own good. Those infected are a menace not only to themselves but also to the community. Probably the best method would include the insistence on rigid reporting and a follow-up of cases until an adequate amount of therapy has been given. Failure to continue treatment until this state had been reached should be made a punishable offense. This may seem drastic, but it would undoubtedly be the most effective method of trying to eliminate this terrible scourge.

The cause of heart disease due to hypertension is not yet known; and one is handicapped therefore in suggesting the remedy. There is considerable evidence however that heredity plays a big part in the incidence of the disease. There is also little doubt that a life of stress and strain is a potent factor in causing the condition. It seems that it might be possible by education to induce the children of families with bad cardiovascular tendencies to enter occupations where life was simpler. If the individual could be induced to lessen his responsibilities in the earlier stages of hypertension, unquestionably life would be prolonged. When the heart has begun to give way under strain, the patient must be made to realize that he should lead a less strenuous existence and that adequate mental and physical rest is the keystone of his treatment.

When arteriosclerotic heart disease occurs prematurely the same remarks as were made under hyper-

Protect Babies before Birth

SYPHILIS in newborn babies, frequently called congenital syphilis, is preventable in most cases. Read what Surgeon General Thomas Parran of the United States Public Health Service says:

"The first thing to do completely, in my opinion, is to *wipe out congenital syphilis*. That is one job that doesn't need to take a generation . . .

"We know absolutely that with good treatment, begun in time, there is only one chance in eleven that the syphilitic mother will not bear a healthy child . . .

"We know that early treatment before birth is vastly more effective than any treatment after the child is born."

A blood test will indicate whether or not an expectant mother has syphilis. If the test is positive, she can take advantage of the almost certain protection for her child which medical science provides.

Every mother-to-be wants her baby to grow to sturdy manhood or womanhood—yet in the United States, authorities estimate, sixty thousand babies are born each year infected with syphilis. Frequently this disease may seriously affect the sight and hearing, or weaken the heart and other organs.

At times congenital syphilis in a child, unsuspected by either parent, may give no outward sign of its presence before maturity, when evidence of the disease may appear. Yet, if a blood test were made part of the examination and prenatal care given expectant mothers by physicians or clinics, congenital syphilis would be a rarity in our country.

The fight to stamp out syphilis gains power and effectiveness every day. Public opinion actively supports intelligent measures for the prevention, treatment and control of venereal diseases. Citizen groups, notably women's clubs, are becoming aroused to the fact that syphilis, scourge though it may be, is not unconquerable.

Most communities maintain clinics to care for those who are unable to pay for treatment. Local health departments or medical societies are prepared to refer those in need of treatment to qualified physicians.

The Metropolitan will be glad to send you its booklet "The Great Imitator" which contains information that you should have about syphilis. Address Booklet Department 239-Z.

The American Social Hygiene Association, through its National and State Anti-Syphilis Committees, is sponsoring the third National Social Hygiene Day, February 1st, 1939. On this day, citizen groups and physicians all over the country will meet with health officials to plan the next steps to take in stamping out syphilis—particularly congenital syphilis. This Association, 50 West 50th Street, New York, N. Y., will be glad to send literature and full particulars regarding the meetings.

METROPOLITAN LIFE INSURANCE COMPANY

FREDERICK H. ECKER, Chairman of the Board LEROY A. LINCOLN, President

ONE MADISON AVENUE, NEW YORK, N. Y.

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tension apply. Indeed, hypertension is probably the main cause of the premature development of arteriosclerosis. Here again there is a large hereditary element, and individuals with a family history of cerebral accidents or coronary thrombosis (the formation of a clot in the arteries supplying blood to the heart muscle) should be educated to the fact that they probably start life under a handicap and should select the less vigorous occupations. When the disease occurs as a result of senescence, or growing old, the problem consists of providing adequate care so that life may be prolonged as much as possible.

(To be concluded)

How's your heart? If it's a healthy heart, be properly appreciative, and learn how to keep it that way; if it's damaged, then find out how to treat it with the care it requires. Tune in on Wednesday, February 15, and learn how to live with heart disease. The American Medical Association and the National Broadcasting Company will tell you the known ways of protecting the heart against infection and hygienic abuse.

TIPS FOR SAFE DRIVING

An effective little trick that many drivers find helpful when backing their cars is to notch or mark their steering wheel so they can tell by its position when the front wheels are absolutely straight. Always sound your horn before backing. Keep your rear window clean and your rear-view mirror in good position.

Proper tire inflation also is a good investment in comfort and safety. Underinflation cracks the side walls of a tire and makes the car harder to steer and increases fatigue in driving. Overinflation makes riding bumpy, tiresome and uncomfortable.

One factor is responsible for a third of all fatal traffic accidents. This factor is speed—driving too fast for conditions. The speeder is not only the driver who exceeds the speed limit. Sometimes, as when children are playing near the street and are likely to break across without warning, even 15 miles an hour is too fast. If each driver would leave five minutes earlier and drive with an extra edge of caution, he would find his driving a pleasure instead of a strain.

—*National Safety Council.*

THE DEATHS IN GOLDEN SQUARE (Continued from page 127)

count. So Dr. Snow began, and he soon found definite support for his ideas.

It must be remembered that in his time, cholera was not an uncommon disease, and there were many more or less complete records of isolated cases and small outbreaks, from a study of which Dr. Snow became more and more convinced that the first point of attack *was* the alimentary tract to which the responsible agent gained entrance in the usual manner; that is, by being swallowed. It is unnecessary to follow him step by step as he laboriously traced case after case and studied minor outbreak after outbreak, personally when possible, or by communication with those on the spot.

Dr. Snow was acutely aware of the significance of the fact that cholera most often began among those whose living conditions were not of the best and among whom sanitary conveniences were practically unknown. But the disease did not confine itself to the crowded dwellings of the poor. By what channels did it extend itself more widely and reach the well-to-do classes? Very simply, said he: "I allude to the mixture of cholera evacuations with the water used for drinking and culinary purposes, either by permeating the ground and getting into wells, or by running along channels and sewers into the rivers from which entire towns are sometimes supplied."

In 1849 there occurred in London two small outbreaks of cholera, one in Thomas Street, Horsleydown, the other in Albion Terrace, Wandsworth—the one inhabited by the poor, the other constituting "the genteel dwellings of a number of professional and tradespeople."

In Thomas Street the houses were small and crowded into two small courts; in Albion Terrace they were detached and well separated.

These outbreaks constituted an excellent opportunity to test the validity of the assumption that the disease could be carried by water, and Dr. Snow made the most of it. This is what he found.

The houses on Thomas Street stood back to back with an intervening space, one row facing Truscott's Court, the other facing toward what was called Surrey Buildings. In the space between were the privies of both courts emptying into the same drain; and there was, moreover, an open sewer which passed the open end of both courts.

Now, in Surrey Buildings the cholera was rife, producing a fearful devastation, but in Truscott's Court there were but two cases.

The dwellers in Surrey Buildings pumped their water supply from a well filled from the pipes of the Southall and Vauxhall Waterworks. This well was not used by those who lived in Truscott's Court who drew on a similar well also served by the same water company. The slops—and it must be remembered that at the time of Dr. Snow's investigations, "slops" included the contents of chamber vessels—were emptied into a channel in front of the houses, this channel beginning close to the well pump.

For some time previously, owing to something being out of order, the well had occasionally overflowed into the channel or gutter, the water flowing back into the well mixed with impurities and carrying with it filth from the crevices in the ground and pavement.

The first case or two attracted no particular attention "being considered to represent about the average number of cases for the neighborhood." But as the water from the washings of their fouled linen and the rinsings of their chamber pots was emptied into the gutter and so reached the well from which they all drank, the disease spread rapidly among those in Truscott's Court, so much so that those surviving and not at once attacked fled in panic.

The medical gentlemen who attended the cholera in Thomas Street took notice of the overflowing of the well and the state of the gutter which emptied into it and found a relation between this state of affairs and the outbreak, for quite naturally such a situation was productive of noxious odors and filled the air with morbid poisons.

Dr. Snow, however, in close pursuit of his ideas, noted that the *water* as well as the air had a foul and offensive odor; that it was cloudy with suspended particles, and that, when the well was finally emptied, "a large quantity of black and highly offensive deposit was found."

In Albion Terrace the disease was strangely restricted to seventeen houses (numbers 1 to 17). The Medical Officer of Health attributed this peculiar distribution to three factors: first, to the disagreeable odor emanating from an open sewer in Battersea Fields, 400 feet north of the terrace; second, to a disagreeable odor from the sinks of the houses, which became much worse after a storm, and, finally, to the odor from an accumulation of rubbish in the cellar of the house in which the first case appeared.

Thus the Medical Officer, but not so Dr. Snow. As usual, he looked to the water supply and found this: The seventeen houses were supplied from a copious spring, the flow from which was collected in a series of tanks, one to each house, connected by stoneware pipes. From each tank a lead pipe ran to a pump situated in the back kitchen. Four feet from each tank was a cesspool under a privy. When examined, at least two of the cesspools were found to have been blocked in their overflow drains so that the surrounding soil was saturated. As a result, during the storm which occurred two days before the outbreak commenced, the lower premises of several houses were flooded with fetid water; and from this time on, the water, which was only occasionally complained of before, was constantly disagreeable. Moreover, Dr. Snow, who examined the premises, found that it contained various substances which could be identified as evidently having escaped digestion in the alimentary canal.

Now there were in Albion Street four houses supplied with water passing through the tanks in Albion Terrace. Three were vacant, and the gentleman who lived in the fourth had always regarded the water as impure and refused to

drink it. And there were no cases of cholera in that street.

All these circumstances, in Dr. Snow's eyes, were of greater importance and significance than any collection or dissemination of odors, no matter how offensive or what their source. For, after all, the odors permeated all the houses in Albion Terrace, but cholera appeared in only seventeen of them. Of what possible significance could be bad odors from kitchen sinks since "their existence is of such everyday and almost universal prevalence?" Not only did the storm create offensive odors in the sinks of thousands of London houses, but in Albion Terrace the two houses among the fatal seventeen where the odors were most offensive had the mildest type of the disease. So, laboriously and at an extraordinary expenditure of time and labor, Dr. Snow gathered and analyzed his data. Whenever possible he investigated personally; when this was not possible his busy pen was writing letters of inquiry requesting data of outbreaks, maps of water supplies and so on.

He found, for example, that footmen and men servants, who lived in the best parts of London and went from home less than their masters, seldom had cholera. And still more uncommon was the disease among brewer's men and the brewers themselves because, said he, "they never drink water and are, therefore, exempt from imbibing the cholera poison in this vehicle." On the other hand, those who drank water and those who were closely associated with it, such as sailors, fishmongers, tanners, weavers and so on, were frequently attacked by the disease. Moreover, who could be more in contact with the effluvia of the disease, either as given off by the sufferer or the dead or as encountering the effluvium lurking in infected localities, than the doctor and the undertakers? Yet in these groups the incidence of the disease was low.

The further he went, the more convinced Dr. Snow became that cholera was a disease affecting the alimentary tract primarily; that the causative agent entered the body by way of the mouth with food or drink; that it left the body with the intestinal discharges; and that once the disease arose it broke out as an epidemic through the contamination of water by such material.

He was convinced of the correctness of these assumptions and the fallacy of those which had preceded them. And slowly and even reluctantly his ideas began to receive something more than supercilious consideration. Perhaps, as some said, the cholera poison in the air about the sick person required the presence of calcareous and magnesium salts in the water to give it effect. Or perhaps the water absorbed the gases given off by the decomposing matter.

Dr. Snow held fast; he *knew* he was right. What was needed was an outbreak he could watch from its inception and in which he could put his theories to the acid test. And then, in 1854, came the outbreak in Broad Street, Golden Square, which turned out to be the most terrible which had ever occurred in the United Kingdom, taking nearly 700 lives within ten days of its start.

No sooner was it known that the appearance of cholera in Golden Square was something more than the occasional scattered case in those days regarded as a normal event, no sooner was it recognized that this was cholera in epidemic form, than Dr. Snow could be seen visiting houses in which cases had occurred, questioning, noting everything with his keen and observant eye.

The water supply in Dr. Snow's time varied greatly in different parts of London, not only in its purity but in its character. Not uncommonly it was hauled directly from the Thames; quite frequently it was pumped from wells, some of which were highly esteemed and sought after as furnishing water of peculiar excellence and distinguished by a distinct flavor. Such was an important and favored supply in Golden Square which was destined to become famous in medical history as the Broad Street pump.

Not only did Dr. Snow find that most of the victims of the epidemic either preferred or had access to the water from the Broad Street pump; but in the case of the gentleman from Pentonville and the old lady in Hampstead, he found indisputable proof that the water from the pump carried cholera. We may hear their stories in his own quaint words:

"A gentleman in delicate health was sent for from Brighton to see his brother who was attacked with cholera and died in twelve hours on the first of September. The gentleman arrived after his brother's death and did not see the body. He only stayed about twenty minutes in the house where he took a hasty and scanty luncheon of rump steak, taking with it a small tumbler of cold water and brandy, the water being from the Broad Street pump. He went to Pentonville, was attacked with cholera on the evening of the following day, and died the next evening."

As for the lady in Hampstead: "I was informed by her son," he says, "that his mother had not been in the neighborhood of Broad Street for many months. A cart went from Broad Street to West End every day, and it was the custom to take out a large bottle of water from the pump on Broad Street, as she preferred it.

"The water was taken out on Thursday, the thirty first of August, and she drank of it in the evening and also on Friday. She was seized with cholera on the evening of the latter day and died on Saturday. A niece who was on a visit to this lady also drank of the water. She returned to her residence, a high and healthy part of Islington, was attacked with cholera, and died also. There was no cholera at this time either in the West End or in the neighborhood where the niece died.

"There was also an officer of the army who lived in St. John's Wood, but came to dine in Wardour Street where he drank water from the Broad Street pump, was attacked with cholera, and died within a few hours."

Striking and conclusive as were such incidents, John Snow was nothing if not thorough. He knew that even more than this, perhaps, would be necessary to break through the barrier of opinionated skepticism which was confronting him.

So he took cognizance of the workhouse or, as we would call it, the poorhouse, which was almost surrounded by houses in which cholera deaths had occurred. If the cholera mortality in the workhouse had been equal to that in its immediate vicinity, among its 535 inmates there would have been at

(Continued on page 178)

H. Armstrong Roberts

SCHOOL and HEALTH

WHAT IS LAZINESS?

Conducted by

J. MACE ANDRESS, Ph.D.

LAZINESS is usually regarded as a disgrace! It implies that the guilty person is sluggish, indolent and indifferent and also that in some way he could, if he would, be equal to his problems and face facts. The lazy man or woman in a community seldom receives any sympathy, nor is there any serious effort made to explain his condition. "Oh, he's just lazy," seems to be the end of the story. There is little or no attempt to explain laziness itself. The same attitudes were once reflected in the school, but today in the up-to-date school an attempt is made to explain indolence in the light of modern hygiene and psychology.

One cause of this trait is evident to all those who have made a scientific study of childhood. The lazy child is often a sick child. His sluggishness may be due to a lack of energy. Certainly we cannot expect an expenditure of energy unless there is a reserve supply left after the physiologic needs of the body have been satisfied.

Scientists say that the body generates every day about 3,400 foot pounds of energy through the food we digest and the air we breathe. Of this, 2,840 pounds are used each day in maintaining the heat of the body. Only 560 pounds, or roughly one sixth of the total, is left for carrying on mental and muscular processes. Our capacity for activity, play and work is therefore limited. Snakes, frogs, turtles, alligators and other reptilia solve their problems in a clever way. They are cold blooded and hibernate or go to sleep during the winter and so save energy.

Probably none of us would care to do that even if we could. We may conserve much of our margin by sleep and rest, but even then the supply may be lacking. This may be due to a poorly balanced diet and too little food. Take the case of Miss Montague, who became discouraged and angered with Angelo because he seemed so lethargic. Late one warm afternoon in the spring she found him sprawled over on his desk fast asleep. Something told her that he might be the victim of circumstances beyond his control. As a result of her inquiry she found that he got up every morning at 4:30 to peddle papers. He ate his breakfast of a cup of tea and some crackers hurriedly and then rushed off to school. Small wonder that he had little reserve energy to pursue his school work.

Then what shall we say about those children who have diseased adenoids and tonsils, frequent colds and anemias? With such physical handicaps the machine just refuses to function. Apparently the first thing to do in the case of laziness is to investigate health habits and physical defects.

But even when a child is in the best of physical health he may be so indolent and sluggish as to be called lazy. This may be due to a lack of interest. It occurs among both dull and bright children. Peter, for example, was an attractive child who was always clean and polite. He won the good will of his teachers as he passed from grade to grade although he showed little aggressive spirit. Finally he reached a place where he could not or would not carry his work. An intelligence test showed that he was far below the average of his class. When he was transferred to a special class where he found work which he could do with his hands, the signs of laziness disappeared.

Julia's was another interesting case. She was in the best of physical health and never actually failed in her studies, but she seldom got much more than a passing mark.

To Contributors:—*The editor of the School and Health Department will be pleased to receive articles dealing with the actual solution of concrete and practical health education problems in the school. Contributions on general theory are not solicited. Articles must not exceed 1,000 words in length. Stamps should accompany manuscripts to insure their return if rejected. All articles accepted will be paid for at regular rates. Address Editor of School and Health Department of* HYGEIA, *67 Clyde Street, Newtonville, Mass.*

She seemed to be bored with her work and got into mischief. All her teachers said, "Oh, Julia is just lazy." Each of them had an idea she could do better, but how to bring this about was a problem. Finally the school psychologist was sent for. After giving her a battery of mental tests he had an interview with the principal and teacher.

"Are you ready to make a recommendation in the case of Julia?" asked the principal.

"Yes," said the psychologist, "I suggest promotion to the next grade.

"What!" exclaimed the principal. "Do you realize that she is barely doing the work of the fifth grade?"

"Yes, I understand," he replied, "but I find that she has one of the highest I.Q's in the class. Instead of her school work being too hard it is not difficult enough to command her respect."

The next scene in the drama began when Julia faced the principal, Mr. Towne, in his office.

"I have a surprise for you, Julia. You may be surprised to know that I think you are a bright girl and can do much better in your school work. If I promote you into the sixth grade, will you work hard?"

"I'll try, sir," she replied eagerly.

It all worked out as the psychologist predicted and as the teacher hoped. Julia not only did the work of the sixth grade but instead of getting practically all C's she received nearly all B's and some A's.

Evidently it takes motivation as well as energy to liberate power!

From that time, Mr. Towne found lazy pupils a stimulating challenge!

What Do I Do with My Twenty-Four Hour Day?

By ETHEL MEALEY

How to spend one's time to advantage is one of the most important problems of wholesome living. Children may be guided in this self direction even in the sixth grade. as shown in this project by Miss Mealey, director of health education, Division of Maternal and Child Health, Oregon State Board of Health.

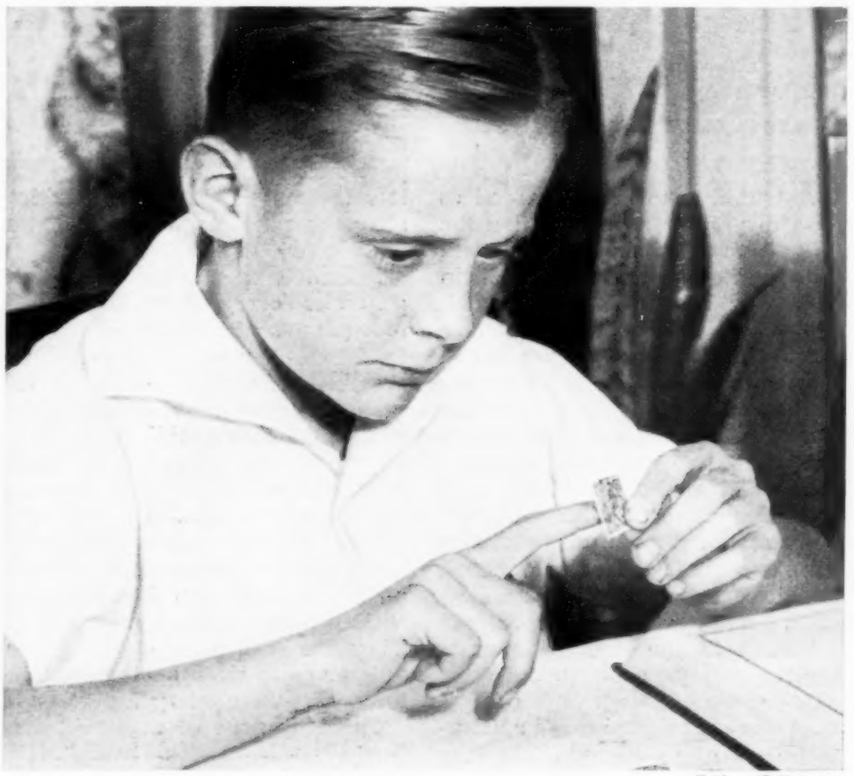
THERE is a principle of mental hygiene which says that "A healthy personality is an integrated personality." In order to have a healthy personality it is necessary to have a task, a plan and freedom to carry out the plan.

As the result of a study of "change" and "growth" (HYGEIA, September 1938, p. 842) the pupils of a sixth grade found out that change does take place in many different ways; that it takes place slowly and gradually, and that it may be promoted under favorable conditions. They wanted then to know what they could do to achieve change—desirable change. The question was, How can I achieve what I want to do? In starting our plans, we found that we all had one thing in common: a perfectly good twenty-four hour day. Each one can say with Pippa in "Pippa Passes," "My morn, noon, eve and night—how spend my day!"

The first step was to make an individual list of everything that is done during any usual day. Then, in a combined art and arithmetic period, each made a large circle, divided it into twenty-four sections indicating the twenty-four hours of a day. Each pupil organized his prepared list of activities under definite headings, such as sleeping, eating, playing and working. With colored crayons, each one made a picture of his own day on his circle. This brought out likenesses and differences in the way of using the day. The greatest variations were in hours for sleeping, playing and working. They then analyzed their days in terms of work. When asked how much work they did during a day, they gave a variety of answers. Some said "an hour"; one pupil said "six hours" and caused much merriment in the class. Thereupon we decided to find out the answers to the following questions:

1. What do we mean by "work"?
2. How is work measured?
3. How much work do you do in the usual day? (According to the picture of the usual day.)
4. Is it possible to conserve energy?
5. How do we get our energy?

Reference material was provided, and the class was divided into "research" committees. We had a busy two weeks collecting data from reference material, from the coach, nurse, science teacher and home economics teacher. Each pupil compiled his own caloric requirements; some of the more ambitious ones figured the caloric requirements for different members of their families. Work, energy, food, sleep, rest, relaxation—all had new



Ewing Galloway

meaning. Every pupil experienced the thrill which comes from discovering something new. One boy said, "I know what 'Use your head and save your feet' means." We made a group list of little ways in which we could save energy, as "More planning; less hurry." A game of "let go" was initiated. Much interest was developed in "the way of doing things," as carrying books, climbing stairs, sitting at a desk. Then, with India ink, we made desirable corrections in our circles and listed ways in which we could improve our ways of living and using our days. These corrections consisted largely of increasing hours of sleep and giving more time to preparation for school and breakfast. In increasing hours of sleep and providing for a leisurely breakfast, other changes had to be made. We weighed values and decided that certain radio programs could be given up with less loss.

Naturally this activity led into a study of those foods which supply fuel and power. Before taking up this matter we paused to find out whether there were other body needs for which food was necessary. This was really a matter of organizing material which the pupils had found in their reading. The study included the following questions:

1. What elements make up the body?
2. What is meant by repair?
3. How can the body repair itself?
4. What new facts do we know about growth?
5. How does the body grow?
6. How can you give yourself a chance for success and efficiency?

The original question about fuel foods developed into a number of subordinate questions:

1. How much food do I need?
2. What kinds of food do I need?
3. Do I need the same kinds of food in different seasons?
4. Does my usual diet really meet my own needs for power, repair and growth?
5. What is the minimum cost of the food which I need for one week?
6. How much and what kinds of food does my family need?
7. What is the minimum cost of the food for my family for one week?
8. What do I have a right to expect from our grocer, butcher and dairyman in the way of clean, fresh, safe foods?
9. Does the county health department make any effort to protect us with reference to foods?

Space does not permit giving the many interesting procedures, activities and results involved in this project. It is apparent that in this entire project much arithmetic as well as factual information is involved. It was planned in this way because the homeroom teacher was also the arithmetic teacher and served as an adviser to this sixth grade group. The answers to all these questions were in terms of individual needs. The answers differed according to individual differences in weight, activity and hours of sleep. This project also gave the pupil an idea of the meaning of "consumer" and the work of the public health authorities. We got the cooperation of one of the grocerymen, who displayed certain foods at our request and let a committee of pupils "inspect," using one of the county public health inspection forms. Incidentally, we were permitted to inspect a restaurant and a drug store.

Adult education became a part of the picture. There were too many factors totally outside the pupil's control for us to hope for changed behavior relative to food and sleep unless the parents knew what we were attempting. We had group meetings, some with children present and participating in the discussion and others with only mothers present. The groceryman and the priest also helped with this phase of the work. The project closed with an early evening meeting for fathers and mothers. The children had all their materials displayed and had complete charge of the program.

The final outcome of the project was the preparation of standards of living during the twenty-four hour day that would give each one a better chance for growth and efficiency.

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Food Experiments for the Classroom: VI

By ETHEL AUSTIN MARTIN

In the five preceding articles of this series the experiments have demonstrated ways of testing individual dietary essentials in different foods. In the succeeding five articles the approach will be just the reverse, that of "taking apart" certain basic foods and applying to each food studied the various tests previously learned. Milk is the first food to be thus "taken apart." Eggs, potatoes and cereal grains will be similarly presented by Mrs. Martin, director of the Nutrition Service of the National Dairy Council.

"MILK contains the greatest assortment of nutritive substances of all single food materials." This statement, made by Dr. Mary Swartz Rose of Columbia University, may suggest to some who read it that the composition of milk is too complex for children to understand. Actually, milk is the easiest of all foods to "take apart," and by applying simple quantitative tests to the various "parts" of milk the significance of the Rose quotation may be more fully appreciated.

Milk contains proteins (casein and lactalbumin), sugar, fat, minerals and vitamins. And although milk is liquid in form, actually more than 15 per cent of its weight consists of solids. The accompanying photograph shows the exact proportion of each solid in a quart of milk. The experiments accompanying this and next month's article show how these various constituents can be segregated from milk and how tests can be applied to identify each.

Ways to "Take Milk Apart"

There are two chief ways to separate milk into its component parts: (1) by separating the fat from the skimmed milk and (2) by

separating the curds from the whey. Each way is used in the commercial world, depending on which dairy products are to be manufactured. The second method yields cheeses that are made from curds and also whey, which remains when the curds are formed. Only the second method will be considered in this article.

Curds and Whey

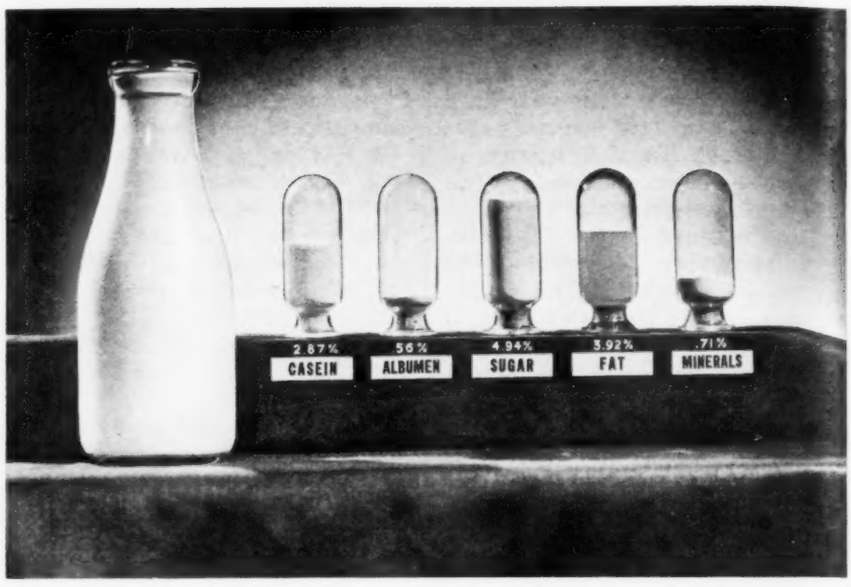
Milk is "curdled" (curds separated from the whey) in two ways: (1) by adding rennet, a digestive ferment, which coagulates the milk protein, as casein, and (2) by adding acid (lactic or other acid), which creates essentially the same curdling effect. Allowing milk to sour produces acid in the milk naturally. The first way of curdling milk, that of adding rennet, is the most important application commercially, for it is used universally in making the hard cheeses. A combination of the acid and rennet methods is used in making sour milk cheeses, which include chiefly cottage cheese and cream cheeses.

Rennet Cheeses

Some rennet-made cheeses are whole-milk cheeses, and some are made of skimmed or partially-skimmed milk. In either case, when the casein is formed into the curd, most of the fat is caught there along with some of the milk sugar. When the curd is formed, the remaining whey contains milk sugar, water-soluble vitamins and traces of protein, fat and ash. Whey is commonly used in dried form. Certain cheese products and other foods now on the market are enriched by the addition of whey in concentrated form.

Cheese is considered a concentrated form of milk. Ten pounds, or 4⅔ quarts, of milk go into every pound of American cheese, and with them most of the other constituents which make milk such a valuable food. Almost 3 billion quarts of milk are used yearly in the manufacture of hard cheeses in the United States.

Eighteen distinct kinds and 400 varieties of cheese are available today. In spite of its excellent food value, cheese is less appreciated in America than in some other countries. Americans, on the average, eat about 5 pounds of cheese annually. This contrasts sharply with the 20 pounds per person eaten on the average yearly by the Swiss, 16 pounds by the French and 15 pounds by the Dutch.



THIS ILLUSTRATES COMPARATIVELY WHAT IS CONTAINED IN ONE QUART OF MILK.

Application to the Classroom

The study of milk and milk products is too vast to be covered adequately here. The subject of cheese alone requires special reading and investigation. It is suggested that time be set aside for this study before the experiments outlined here are started. It would be helpful, for example, for pupils to know something of the different kinds of cheese made and eaten throughout the world; why cheeses differ in flavor, and who makes most of the cheese eaten in the world. Above all, students will appreciate knowing something of the fascinating history of cheese. A visit to a cheese factory will arouse interest in the experiments which follow.

Experiment with Milk (Curds)

Problem

To separate the curds from the whey and to find out what the curds contain.

Materials

Milk
Rennet tablet
Small saucepan or beaker
Bunsen burner or other flame
Pan of hot water
Knife
Cheese-cloth
Funnel or sieve

Tenth Experiment

Put 1 cupful of whole milk in a small saucepan or beaker. Warm the milk by placing the bowl in a pan of hot water. The milk is warm enough when a drop on the wrist feels neither hot nor cold. Crush ½ rennet tablet, and dissolve it in 1 tablespoonful of water. Add the dissolved rennet to the warm milk. Set aside in a warm place, but do not heat or stir it. In half an hour look at the milk. Tip the bowl slightly. The milk has clotted and will not pour out.

Now cut the stiffened milk criss-cross with a knife. Notice the clear yellowish green liquid which appears between the white clots. The liquid is whey, and the white clots are curds. The curd is largely protein and can be tested by the methods suggested in the fifth and sixth experiments.

Heat the curd and whey mixture by placing the pan again in a dish of hot water for a few moments. This brings about a more complete separation of curds and whey. Then drain off the whey by pouring the mixture into a cheese-cloth placed over a funnel or sieve. (Save the whey for the following experiment.)

Results

When rennet in the form of rennet tablets is added to warm milk, the milk separates into two parts called the curd and the whey. Tests on the curd show that it contains protein.

Conclusion

A simple way to separate the curds from whey in milk is to add

rennet, which curdles, or coagulates, the milk.

Adaptation to Upper Grades

When the milk is curdled with rennet, other substances besides the protein are caught in its curds. For example, the curd contains fat, if whole milk has been used. By using the tests suggested in the third and fourth experiments, fat in the curd can be identified, although the results will not be as clearcut as when the more concentrated forms of fat, suggested in those experiments, are used. Likewise the curd will be found to contain ash, if the tests suggested in the seventh experiment are applied and, more particularly, calcium, if the eighth experiment is repeated.

With the curd so rich in food value, students will be interested to know what the whey contains. Obviously it contains water and substances which dissolve in water. These are certain of the vitamins and sugar. Following is a test for sugar in whey. The experiment requires some skill and probably should be attempted only by upper grade students, who will understand that failure to obtain a positive test does not mean that sugar is lacking.

Experiment with Milk (Whey)

Problem

To find what is in the whey of milk.

Materials

Milk whey
Flat pan
String

Eleventh Experiment

Taste the whey. The sweetish taste is due to the milk sugar found in milk. Milk sugar is not as sweet to the taste as cane sugar. It is the sugar in milk which gives it its mild, sweet flavor. Put the whey in a shallow dish, and set it uncovered in a warm place overnight. The next day some of the water will have evaporated. The whey which is left will be sweeter than before. Now put a string in the dish so that one end is in the whey and one end extends over the edge of the dish. Leave overnight. Crystals of milk sugar may form on the string.

Results

Whey tastes mildly sweet, and sugar crystals are formed from whey, showing that it contains sugar.

Conclusions

Milk contains sugar. It is found in the whey portion when the curds are separated from the whey.

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Little Journeys Among High Schools: VI

By JEAN V. LATIMER

THE USE OF THE MICROSCOPE OPENS NEW WORLDS TO EXPLORE AND GIVES NEW MEANINGS TO ORDINARY THINGS.

Ellis O. Hinsey

Most teachers can make their work more attractive to their pupils through visual aids. Miss Latimer describes some distinctive work which she has seen in her travels as coordinator in health education for the Massachusetts Department of Public Health.

VISUAL aids, which are coming to include all visual-sensory aids such as charts, graphs, posters, films, models and class excursions, are becoming increasingly popular in the teaching of health.

A director of physical education in a high school told me recently that in the teaching of posture, nothing had been so helpful as the taking of posture silhouettes, for then, he said, "the pupils actually see themselves as they are and will try to improve." I found the teaching film "Posture," presenting the topic in a manner which made good posture seem highly desirable, at the same time demonstrating its relation to the body framework and the internal organs.

All this is increasing evidence that there is being taught a new type of physiology as it actually pertains to the everyday functioning of the human body. This is different from the former didactic practice of, "John, stand up and say your bones." Instead, I find such questions being asked as, "What is the advantage of the body having more than 200 bones?" and "Why can the bones of the leg support such a heavy weight?"

One class was studying about bone structure by examining animal bones, the teacher, of course, taking the responsiblity that this type of material was handled in a sanitary manner. I was told that just previously they had secured a calf's heart in order to make more understandable the study of the human heart.

Motion pictures are making a big contribution to the teaching of this new type of physiology. An increasing number of high schools

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are using such classroom teaching films as "Breathing," "Circulation" and "Digestion." Sarah, a high school senior, told me that she never really understood the process of respiration until she had studied the animated diagrams in the teaching film, "Breathing."

There is a growing tendency to regard health teaching films as a real part of the lesson, with the teacher always seeing the picture before presenting it to the class, so that he may be able to tell the pupils for what they should look.

A high school principals' club in the Connecticut Valley has worked out a plan for the rotation of the health teaching films available from the state departments of education and public health as a regular part of the science teaching in the high schools of the vicinity. By this plan the films always arrive so that they may be used as an integrated part of specific health teaching.

But there are also in use films which have enough general appeal to be used for assemblies. The film showing the life history of the common fly from incubation until it lights on a piece of bread is such a film. One boy, after seeing this, remarked, "Well, I guess I won't think a single fly is so harmless, now that I have seen the possible places he has traveled before he lights on my bread." This film was also being used as an approach in a health class studying the community aspects of health for a campaign to locate the fly-breeding places in the neighborhood and to cooperate with the board of health in getting rid of them.

Several weeks later I visited another school where in the assembly a film on tuberculosis was being shown as a preparation for the local tuberculin testing program.

While there is some doubt as to the practicability of using a microscope with the younger child, there is a growing recognition that beginning in the junior high school its use may be a valuable aid in explaining the world of the very small. A science teacher reports her class fascinated by examining a microscopic slide of a sample of water containing organic matter.

Another class in a high school actually grew harmless bacteria in petri dishes. From this visual study the pupils saw that bacteria grow faster in the dark closet of their

classroom than in the window facing the sun.

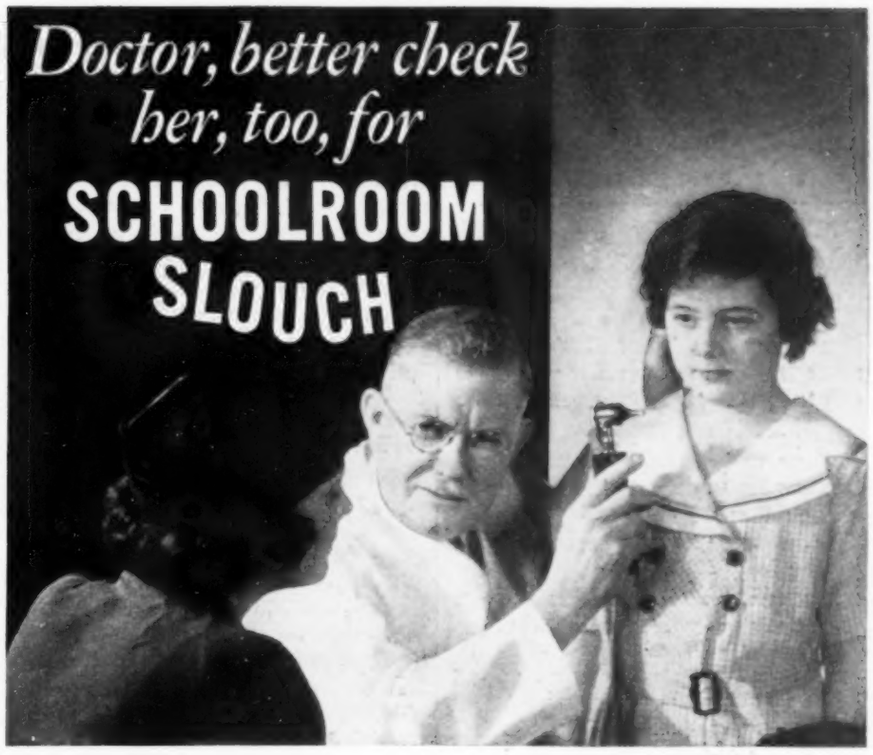
Although the use of the poster in health education has been much overdone, it is still holding an important place as a visual aid. In one high school where, in addition to their classroom health teaching, there is a general organized health drive on some selected health topic by the entire school each month, I found attractive posters in the halls and cafeteria. These pictured messages were a part of the school's drive to popularize vegetables and fruits. Some of their captions would even be worthy of a professional advertiser. I was told that the English teacher had helped the class in making this study of captions.

We have found effective the so-called "share posters," which are pictorial graph bars in various bright colors showing the food elements found in certain foods.

In a large industrial city where the conditions of the pupils' teeth certainly merited teaching emphasis on the topic, the pupils prepared an interesting exhibit as the culminating activity of their study on teeth. In this pictorial material was included a three-dimensional model of a tooth, which could be taken apart. Dan O'Neil, a member of this group, told me that he never understood before why you had to have a cavity filled even though it didn't hurt. He said, "I never did know before much about the structure of the tooth from seeing those diagrams in the health books." The parents, local public health authorities and dentists were invited in to see this exhibit. Thus, this activity not only gave the pupils opportunities for working together and collecting and making things but proved an avenue for an interaction of the home, school and community.

In one city I noticed that a large number of the high school girls were wearing low-heeled shoes. The dean of girls told me that early each fall they had an exhibit on suitable shoes for school and for dress. It was her belief that this exhibit had been of real value in making low heels the desired and accepted thing for school wear.

Since visual education is rapidly becoming a recognized phase of all education, health teachers are studying this subject with much seriousness. A community health teacher



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told me that now he was better prepared to make his school trips to the water supply and pasteurization plants really mean something to his class because he prepared them for it by discussing the points that they were expected to see and also by requiring his pupils to write up such journeys for class presentation.

The teaching on health through visual aids is only in its infancy, but already the schools are on their way.

THE HEALTH OF 40 MILLION PEOPLE

(Continued from page 122)

attained by ethical physicians, and if it is understood also that people themselves often place a further limitation on the potential benefits that are possible through good medical service, then health is obtainable. It is procurable through a variety of different plans devised by the combined efforts of the medical and allied professions and other interested groups to meet the needs of their respective local communities.

The American Medical Association is convinced that it is impossible to apply a single, universal plan to all parts of the United States for the entire population or even for the 40 million underprivileged persons.

Moreover, the American Medical Association is not opposing the low income groups in this country in their effort to secure good medical service at a cost which they can reasonably meet. It has always endeavored to discover more suitable methods to assist these people to solve their medical problems. It does oppose the exploitation of the poor, and it is unalterably opposed to any scheme that would give the poor an inferior quality of medical care. The Association maintains today, as it always has in the past, a genuine sympathetic concern in the health of all the people. It has consistently maintained that the primary mission of the medical profession is the service it can render to humanity. It is striving earnestly to do its part to provide good medical care to the 40 million persons in question and is ready to participate in the development of sound programs for the improvement of the health of all the people. In addition to the provision of free services valued at more than $300,000,000 annually, the medical profession has organized several hundred county plans for the care of the indigent, the medically indigent and the groups with low incomes. Thus the medical profession is endeavoring to make good medical care readily available for the millions of underprivileged persons in America. The medical profession is unwilling to recognize that a high quality of medical care should be provided for the well-to-do only and that an inferior quality of medical service is sufficient for the economically unfortunate. There must be but one type of medical service for all—medical care that is good in quality, ethical in character and suitable in amount.

THE NEW DAY and the NEW EDUCATION

(Continued from page 130)

lar skills which are most essential in the artificial mechanical age. It provides play and recreation programs not so much for fun as to furnish the basic play habits for the wise use of leisure time.

The new physical education is not concerned so much with the winning of basketball and football games as it is with the promotion of sport, not for sport's sake but for the sake of sportsmanship. A requirement for graduation from any American public school should be a "sound mind in a sound body."

[NOTE.—Photographs used in this article are from Acme; Brown; Ewing Galloway; Henrick, and Philip Gendreau.]

SLEEP

(Continued from page 109)

the bedside table they will place a history of England, of France, a beginner's textbook in botany, a volume of essays, not forgetting our own dear Emerson—textbook, notebook and pencil. A half hour of wakefulness, and one turns one's attention from the elusive problem to an hour's serious work of reading and note taking. The practical certainty of the gradual disappearance of one's insomnia is significant when it is thus scientifically and resolutely utilized for benefit.

Still something is wrong. Quite probably there is chemical disorder within. The fine mechanism essen-

tial to normal life rests on a biochemical basis. Your doctor will examine your reflexes. They may point definitely to tension growing out of a disturbed acid-base balance, a frequent alteration in nervous nutrition. The disturbance may possess even less remote chemical significance—an internal secretion disorder, an obvious hepatic (liver) or renal (kidney) inadequacy.

Today's physician will now check in detail the patient's emotional equilibrium and determine whether the anxiety is primary or secondary to the physical discord. The patient should secure intelligent professional aid following the warning of a third sleepless night.

I write especially to the inherently neurotic, to the highly organized, high-strung children of modern civilization, to the products of "half-baked" education. From them, nature exacts exceptional physical and mental well-being as a basis for that nervous security which insures the "balm of hurt minds."

The physician may feel the need of additional counsel and call on the minister, a legal adviser or some trusted friend. This is advisable when a situation is revealed —domestic, social, financial, romantic or what not—which his prescriptions cannot reach. When the physician does uncover an emotional discord which in his practical training he knows (or should know) can be handled by the patient himself, his counsel may suffice to displace the unwholesome attitude by assisting the apprehensive one to face reasonably that defect of his which induces anxiety or panic.

It is for each of us to evolve the capacity to rest, to relax for a few moments several times a day, to relax absolutely on retiring, to allow the turmoil of each day's life to fade out. Here, truly, in part, is the mastery of life attained by the wise, for whom sleepless hours hold no terror.

WATER CONSUMPTION IS HIGH

Standards of American living are so high that an average of more than 1 ton of water daily is needed for each urban family, reports the American Water Works Association, national organization of water officials and operators.

SOUND MINDS IN SOUND BODIES (Continued from page 148)

long been known that tobacco and alcohol have a deleterious effect on the nervous system and that this effect is much greater in the growing child. Excessive and prolonged use of these drugs definitely limits the capacity of learning, in addition to the damage they do to the body. It should be the duty of every parent to assist his child through the growing period without acquiring the habit of using these drugs to excess, if they must be used at all. So much has been said on this subject that it is not necessary to say more than to point out their danger to improvement in the child's health and mentality.

An important factor in determining the child's health is the environment in which he is raised. Poverty means insufficient food, inadequate clothing and poor shelter, which undermine the child's health and interfere with the sound mental development. With poor sanitary conveniences and inadequate hygienic measures contagious diseases are prevalent and are often more virulent because of the poor general health of the children. While such conditions are more frequently found in the tenements and slums of our larger cities, they are also found in poor country communities and in some so-called "better" homes as well. The poorly nourished child, weakened by exposure and disease, cannot be expected to have a fair chance to achieve normal mental development. The preservation of the child's health is a community problem. It is receiving recognition. Civic organizations, women's clubs, parent-teacher associations and other national agencies are active in looking for ways to improve the situation.

The environment of the child also includes the social contacts he makes. If these are difficult or unsuitable, the child will develop a poor emotional adjustment with its interference with sound mental advancement as well. The whole personality of the child will depend on these adjustments. Too rigid discipline on the part of the parents and teachers often has just as bad an effect as the lack of supervision and proper example. There should be a sympathetic understanding of the child's interests and reactions because his future happiness and his ability to meet the problems that come to every one during life depend on the adjustments made during this period of his mental development. This factor presents one of the important influences on the child's progress and determines whether that particular child will attain sound mental development and become a useful citizen in his community.

The child should be taught a code of good health, the necessity of keeping his body strong and healthy, so that the mind can function properly. This is the duty of the parents and teachers who guide the child through his growing period. The influence of keeping the body clean will have a good influence on the mind as well. Clean living leads to clean thinking. Proper supervision of the child's activities and good example in the home and a sympathetic interest in his problems will do much to encourage the attainment of normal and healthy emotional responses.

Since bodily health has such a profound influence on mental development, every measure that will improve that bodily health should be carried out. As was pointed out, many factors enter into the problem of the child's health and its relationship to his mental capacity. Much can be done to help; much is being done now, and there is yet much to be accomplished. With increased understanding of diseases, improvement in sanitation and better nursing care, more children are being carried through the early critical years of their growth and are being kept in better health for their later development.

It is more than a community problem. It requires the cooperation of the parents as well to give the proper environment for their children in which to attain habits of good health as a part of their daily experience. A sound body and a sound mind are dependent one on the other. The child is entitled not only to everything that will contribute to the health of his body but also to every advantage that will aid him in his mental development and emotional adjustment.

"Out of the lowest depth there is a path to the loftiest heights."

—*Emerson.*

TO AMERICA'S SCHOOLS

Your Health!

HEALTH FOR TOMORROW

THE radio program "Your Health" broadcast by the American Medical Association and the National Broadcasting Company continues through February with the following program schedule:

February 1—Preventing Epidemics
February 8—Avoiding Arthritis
February 15—Healthy Hearts
February 22—Cancer Can Be Cured
March 1—Diabetes

The program is designed especially for students in junior and senior high schools; but it deals with general health problems and is good entertainment for listeners of all ages. The program is presented in dramatized form with music and accompanying sound effects. The program is intended to supplement and not to take the place of formal health teaching. Its purpose is to enliven, dramatize and enrich health teaching by presenting actual experiences which occur many times in the lives of everyday people.

In our series the diseases under consideration in the fifth group, to be presented in February, are those which attack most persons later in life and therefore might seem to be of little interest to boys and girls of high school age. But the causes for subsequent disease may be at work even in youth, and at least three of the diseases listed this month, arthritis, heart disease and diabetes, may occur in youth; when they do they are particularly dangerous.

No one can be absolutely sure of avoiding arthritis. Many factors enter into this disease, including heredity. Yet there are certain causes which at least contribute to making the disease worse, and these can be avoided if they are known. One contributing cause to arthritis is the presence of unrecognized infections in the body, such as those which occur in the gums, about the roots of the teeth, in the nose and the nasal sinuses, and in internal organs, especially the gallbladder, the appendix and the organs of women. Overweight is unfavorable to persons with a tendency toward arthritis. The time to avoid overweight is in youth, since difficulty increases as age advances. The most important lesson which will be taught in the broadcast on arthritis is that the best results are obtained when care of the disease is begun promptly after the appearance of the first symptoms, which are often rather indefinite. In connection with arthritis, information will be given about a related disease, acute articular rheumatism or rheumatic fever. This will lead up directly to the broadcast about healthy hearts, a week later.

The problem of heart disease is largely one of age. Heart disease is now the leading cause of death in the United States. The probabilities are that it will continue to be and that it ought to be. This is because a large percentage of deaths from heart disease occurs beyond the age of 60 years. The objective of public health endeavor is to increase this percentage until there shall be as few deaths from heart disease as possible below the age of 60. Attention is directed especially to the prevention of two kinds of heart disease; namely, that due to articular rheumatism in childhood, which often injures hearts, and to heart disease in early adult life which is often, though not always, due to syphilis. The broadcast will emphasize the prevention of heart disease in early life and the care of the heart disease in later life so that a patient with an injured heart may frequently look forward to a reasonably satisfactory life and one not unduly shortened.

The broadcast on cancer, as its title indicates, will emphasize the hopeful aspects of the situation. Although the cause of cancer still remains unknown, much has been learned about conditions which favor development of the disease, and a great deal has been learned about its treatment in early stages before it has begun to extend from its place of origin. Emphasis will be laid on the following facts: Cancer is not contagious; hereditary characteristics of cancer in human beings have not been proved; all cancers are local in their beginning; cancer can be cured if treated early and persistently; the modern methods of treatment are surgery, x-ray and radium; the principal danger to cancer patients is delay in consulting a competent physician.

The broadcast on diabetes will present the dramatic story of

insulin, which was introduced only sixteen years ago and which has revolutionized the lives of the diabetic.

Instead of being miserable, starving individuals facing a virtually certain prospect of early death, intelligent diabetic patients under close supervision of a physician can now live a life as satisfactory as any healthy person. They must give careful attention to diet, exercise, cleanliness and, if necessary, the use of insulin. If they do these things they can look forward to a full span of life subject to the same diseases, accidents and hazards as nondiabetic persons.

Interest in the program has been expressed in many letters. Two recent communications from widely separated parts of the country follow:

"It is with the thought in mind that you would like to know that the program was heard and was well received that I am writing to you. It is planned to make the one half hour health program a part of our weekly schedule for the health classes and for special programs, we will have as many more of our regular classes listening in as can be accommodated."—G. E. B., Pennsylvania.

"In previous years it has been of great value to our instructors in Health as the dramatizations make the lessons so much more interesting and vivid that the lesson is readily put over."—L. W. B., Washington.

IN THE PREVENTION OF EPIDEMICS, LABORATORY WORK IS VITAL. HERE NEW DISCOVERIES ARE MADE AND APPLIED TO THE DISEASES OF MAN.

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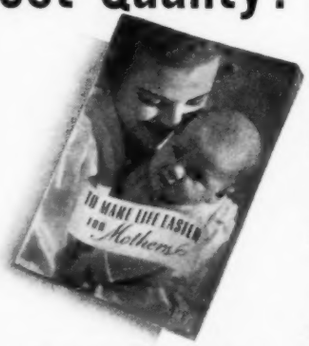
57 LOOK FOR THESE TWO SEALS. THEY MEAN PROTECTION FOR BABY.



GET THIS HELPFUL NEW BABY BOOK!

Contains weight tables, nutritive charts, facts on infant feeding! Just mail 10c in cash or 3 strained food labels to H. J. Heinz Company, Department H-2, Pittsburgh, Pa.

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12 KINDS

HEINZ STRAINED FOODS

DON'T BE CAUGHT!

Do you catch a cold? No, the cold actually catches you, the Maryland Department of Health warns its *Bulletin* readers. When you are not up to the mark physically you are more apt to be caught by the common cold germ. Here are a few pointers:

1. Keep yourself as physically fit as possible. Eat nourishing food. Have your meals at regular times. Avoid rich indigestible combinations, and include plenty of milk, other dairy products and fruit in your diet. Remember to drink plenty of water—several glasses during the day, every day.

2. Dress according to the weather. Avoid sudden chilling. Don't expose yourself unnecessarily to draughts. Don't sit around in wet clothing; if you are caught in a downpour, change to dry clothing as soon as possible.

3. Take some outdoor exercise every day. Be out in the sunlight as much as possible. If you have a job that keeps you indoors most of the day, you will find it pays to spend a few minutes two or three times a day at an open window, flushing your lungs with fresh air.

4. Get plenty of sleep. Have a good time, but don't have it too strenuously. Strike a balance between work and play.

5. Colds are spread by the discharges from the nose and throat. Every time the victim of a cold has a coughing spell, germ-laden droplets of mucus are brought to the surface and spread around. Don't mingle unnecessarily with persons who have colds.

6. Don't use a common drinking cup. Have your own towel and wash cloth. Always wash your hands before eating. The careless cougher or sneezer sprays his germs all around the place and leaves them on everything he touches.

7. If you happen to be overtaken by a cold, show as much consideration for your neighbor as you would like him to show to you. Don't be a transmitter. Sneeze or cough into your handkerchief. Use paper handkerchiefs that can be burned or otherwise disposed of. The quickest way to get rid of a cold is to go to bed; eat very lightly and drink plenty of water. At the first indication of fever send for your doctor, and then follow his advice.

ACCEPTED AMERICAN MEDICAL ASSN. Council on Foods

Baby's First Fruits and Vegetables

BABIES come into the world profoundly dependent on others for protection and nourishment. The first few months of life is the period of most rapid growth and development. It is during this time that baby's soft little bones grow harder and longer, and his muscles develop firmness and coordination. Baby's normal development progresses or lags with the adequacy or inadequacy of his daily food. For this reason it is important that the foods given to the baby are adequate to meet his individual growth and development needs as efficiently as possible.

Nutritional research has shown that certain foods such as milk, vegetables, fruits and eggs are *protective foods,* because they contain vitamins and minerals that must be included in our diet. As important as these protective foods are in the adult diet, they are even more important in the diet of the baby.

The young baby who is receiving human milk or suitably modified cow's milk, cod liver oil or other sources of vitamin D, and orange juice or other sources of vitamin C in customary and appropriate quantities has a large portion of his nutritional needs satisfied. However, there is need for more iron and more vitamin B_1 than these foods provide.

The quantities of iron furnished by either human milk or modified cow's milk do not adequately meet the requirements of the normal infant. A quart of cow's milk supplies only about half or less of the infant's daily iron need. Nature provides for this dietary deficiency by supplying a reserve of iron in the liver and other tissues and in the blood of the child before birth. This reserve supply, however, lasts only until the child is about 6 months old. It is obvious that foods containing iron should be given the child after the first few weeks.

Egg yolk, vegetables and fruits on the average are better in iron content than other baby foods. An egg yolk furnishes from 0.1 to 0.5 mg. (milligram) iron. An ounce of prepared cooked and sieved vegetables will provide from 0.2 to 0.7 mg. iron; an ounce of properly cooked and sieved fruits will provide from 0.1 to 0.3 mg. iron. For comparison a quart of cow's milk may supply only about 0.3 mg. So it is evident that an ounce of strained foods supplies about as much as a quart of milk. Larger servings will, of course, supply larger amounts of iron.

The quantities of vitamin B_1 supplied by vegetables and fruits are important in infant feeding. Vitamin B_1 is specifically needed for utilization of other foods as well as to increase appetite and food consumption. There is experimental evidence that infants who have a high vitamin B_1 intake grow more consistently and regularly.

Vegetables and fruits also contain vitamins A and C in significant amounts. Vitamin C is so important in the diet of the young child that physicians usually prescribe orange juice, tomato juice or some other foods rich in vitamin C. Vitamin A is provided particularly by green and yellow vegetables. Some vegetables and fruits are better sources of vitamins A and C than are others.

The baby's first vegetables and fruits should be finely sieved in order that they may be swallowed easily. Coarse particles of food are irritating to the young baby's delicate digestive tract.

Sieved vegetables and fruits, properly selected to meet the needs of the infant, are usually given to the baby at an age of about 3 or 4 months. At 6 to 8 months it is desirable to replace strained foods with finely chopped foods, although physicians may vary these instructions for individual babies.

Sieved vegetables and fruits are well tolerated by the average baby and rarely cause digestive upsets. When such foods are first given the baby large amounts of the food usually appear in the stools. The presence of such undigested material in an otherwise normal stool should not cause any fear that the baby is unable to digest these foods. Normal infants are able to digest strained foods after the first few months of life.

When sieved vegetables and fruits are first given to the baby, the mother should not display any concern over the baby's first response. Often a mother hastily concludes that the baby does not like the new food because he rolls it around in his mouth and promptly spits it out, when in reality the baby is only experimenting with something new in texture and taste. He needs time to learn to like this new food.

Sieved fruits and vegetables may be prepared in the home and when properly cooked and sieved are not inferior. Care must be taken during the preparation of sieved foods to guard against overcooking or undercooking the food. Undercooking makes it difficult to sieve the food to the proper consistency, and overcooking destroys more of the vitamins C and B_1. It is also important that the water in which the vegetables and fruits are cooked be utilized, as valuable minerals and vitamins are leached from the food during cooking. The cooked food should be forced through a sieve of extra fine mesh several

times in order to obtain a smooth, uniform consistency.

There are available a large variety of canned strained and chopped foods. These may be divided conveniently into several groups:

1. Vegetables packed singly, including asparagus, beets, carrots, celery, beans (green and wax), peas, spinach and tomatoes.

2. Vegetable combinations or "soups," which are sometimes packed with added cereal or beef broth.

3. Fruits packed singly or in combination with other fruits, such as prunes, apricots and apples.

A variety of those products have been accepted by the American Medical Association's Council on Foods and are privileged to bear the Council's seal of acceptance on their labels. For those products which have been accepted by the Council the mother may be sure that the nutritional value of such foods is what is expected from a high quality food and that the statements made about the product by the manufacturer are true. For most products the companies have provided appropriate information indicating that the vitamin and mineral content of the food is high.

A 2 ounce serving of canned strained fruits and vegetables that bear the Council's seal of acceptance may be expected to furnish the following amounts of minerals and vitamins:

Calcium	3 - 97	mg.
Phosphorus	6 - 38	mg.
Iron	0.04- 3	mg.
Vitamin A	300 - 1,700	international units
Vitamin B_1	2 - 14	international units
Vitamin C	8 - 250	international units
Vitamin G	10 - 28	Sherman-Bourquin units

In addition to minerals and vitamins, a 2 ounce serving of canned sieved fruits and vegetables supplies from 0.2 to 0.8 grams of protein and from 12 to 30 calories.

ACCEPTED SIEVED and CHOPPED FRUITS and VEGETABLES

The following brands of canned sieved and chopped fruits and vegetables for use in infant feeding stand accepted by the Council on Foods, Jan. 1, 1939, and are distributed by the manufacturers, who are privileged to use the acceptance seal:

BEECH-NUT Sieved Apples; Apricots; Prunes; Beets; Carrots; Green Beans; Peas; Spinach

BEECH-NUT Chopped Carrots; Beets; Green Beans; Spinach; Prunes

CLAPP'S Sieved Apples; Apricots; Prunes Flavored with Lemon Juice; Asparagus; Beets; Carrots; Green Beans; Peas; Wax Beans; Spinach; Tomatoes; Mixed Greens

CLAPP'S Chopped Apple Sauce; Prunes; Beets; Carrots; Green Beans; Mixed Greens; Spinach

GERBER Sieved Apricot and Apple Sauce; Prunes; Beets; Carrots; Green Beans; Peas; Spinach; Tomatoes

HEINZ Sieved Apricots; Apricots and Applesauce; Prunes Flavored with Lemon Juice; Beets; Carrots; Green Beans; Peas; Spinach; Tomatoes; Combination-Mixed Greens

LARSEN Sieved Apples; Apples and Apricots; Apricots; Prunes Flavored with Lemon Juice; Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes

MRS. PALEY'S Sieved Apricots; Apples; Evaporated Peaches; Evaporated Pears; Evaporated Prunes; Asparagus; Frijole Beans; Beets; Carrots; Green Beans; Peas; Spinach; Squash; Tomatoes

SEAKIST Sieved Apples; Apricots; Peaches; Prunes; Asparagus; Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes

STOKELY Sieved Apple Sauce; Apricots; Prunes; Beets; Carrots; Peas; Green Beans; Spinach; Tomatoes

SUNSWEET Sieved Prunes; Whip-Prune for Prune Whip

VAN CAMP Sieved Apricots; Carrots; Green Beans; Peas; Spinach; Tomatoes; Prunes

V. B. JUNIOR Sieved Apples

WARRANTY Sieved Apples; Apricots; Peaches; Prunes; Asparagus; Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes

WILLIAMS Sieved Prunes

The following brands of canned sieved and chopped fruits and vegetables for use in infant feeding stand accepted by the Council on Foods, Jan. 1, 1939, and are distributed by firms which purchase the products from manufacturers, who are privileged to use the acceptance seal:

A-C Sieved Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes; Prunes Flavored with Lemon Juice

AMERICAN LADY Sieved Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes; Prunes Flavored with Lemon Juice

ARISTO Sieved Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes; Prunes Flavored with Lemon Juice

BBBB Sieved Apples; Apricots; Prunes Flavored with Lemon Juice; Green Beans; Beets; Carrots; Celery; Peas; Spinach; Tomatoes

CLOVER FARM Sieved Apples; Apricots; Prunes Flavored with Lemon Juice; Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes

DOT Sieved Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes; Prunes Flavored with Lemon Juice

DRAKE Sieved Apples; Apricots; Prunes Flavored with Lemon Juice; Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes

EAVEY'S E Sieved Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes; Prunes Flavored with Lemon Juice

EDELWEISS Sieved Beets; Carrots; Peas; Spinach; String Beans; Prunes

FAIRWAY WHITE LABEL Sieved Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes; Prunes Flavored with Lemon Juice

FRUITIDOR Sieved Applesauce; Prunes; Green Beans; Carrots; Peas; Spinach; Tomatoes

HALE'S PRIDE Sieved Apples; Apricots; Prunes; Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes

HAPPY HOUR Sieved Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes; Prunes Flavored with Lemon Juice

I. G. A. Sieved Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes; Prunes Flavored with Lemon Juice

IRIS Sieved Apples; Apricots; Peaches; Prunes; Asparagus; Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes

KO-WE-BA Sieved Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes; Prunes Flavored with Lemon Juice

KRASDALE Sieved Apples; Apricots; Prunes; Beets; Celery; Carrots; Green Beans; Peas; Spinach; Tomatoes

LITTLE ELF Sieved Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes; Prunes Flavored with Lemon Juice

MACY'S Sieved Apple Sauce; Apricots; Prunes; Asparagus; Beets; Carrots; Green Beans; Peas; Spinach; Tomatoes

MONARCH Sieved Applesauce; Prunes Flavored with Lemon Juice; Carrots; Green Beans; Peas; Spinach

OPAL Sieved Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes; Prunes Flavored with Lemon Juice

PLEE-ZING Sieved Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes; Prunes Flavored with Lemon Juice

POCAHONTAS Sieved Apples; Apricots; Prunes; Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes

RANNEY'S Sieved Apples; Apricots; Prunes Flavored with Lemon Juice; Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes

RED & WHITE Sieved Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes; Prunes Flavored with Lemon Juice

RE-JOYCE Sieved Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes; Prunes Flavored with Lemon Juice

RIVAL Sieved Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes; Prunes Flavored with Lemon Juice

ROBIN Sieved Apples; Apricots; Prunes Flavored with Lemon Juice; Green Beans; Beets; Carrots; Celery; Peas; Spinach; Tomatoes

ROUNDY'S SUPREME Sieved Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes; Prunes Flavored with Lemon Juice

SAVOY Sieved Beets; Carrots; Green Beans; Peas; Spinach; Prunes Flavored with Lemon Juice

SHURFINE Sieved Apples; Prunes; Carrots; Green Beans; Peas; Spinach

SOLITAIRE Sieved Asparagus; Beets; Carrots; Green Beans; Peas; Spinach; Tomatoes; Prunes

SWEET LIFE Sieved Apples; Apricots; Prunes; Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes

TRUPAK Sieved Apple Sauce; Apricots; Peaches; Prunes; Asparagus; Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes

UCO Sieved Apples; Apricots; Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes; Prunes Flavored with Lemon Juice

WELLMAN Sieved Apples; Apricots; Peaches; Prunes; Asparagus; Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes

WHITE SWAN Sieved Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes; Prunes Flavored with Lemon Juice

WINFIELD SUPREME Sieved Apples; Apricots; Beets; Carrots; Celery; Green Beans; Peas; Spinach; Tomatoes; Prunes Flavored with Lemon Juice

What's Your Score?

Presented herewith is a set of statements, some of which are true and some false. Do you know which are wrong, and why? The information is taken directly from the articles appearing in this issue of HYGEIA, and you may check your answers with the right ones, found on page 184.

1. Hodgkin's disease always manifests itself in the form of a swelling or tumor growth.

2. Parents so often "shield" their girls from what they consider undesirable social contacts that they elope with the first male who shows them the slightest bit of attention.

3. "Stop talking" is the most important admonition for prevention as well as for cure of most diseases of the larynx.

4. Life insurance statistics show that there is an increase in the death rate between 45 and 65, although there has been a decrease in the death rate in other age groups.

5. The cause of syphilis is unknown.

6. Compulsory sickness insurance is a rather recent innovation, having been first suggested about ten years ago.

7. Diseases such as meningitis and encephalitis, which affect the brain itself, are likely to interfere with normal mental development.

8. Legumes have the same amount of protein as any other vegetable.

9. Babies often cry when they are perfectly comfortable.

10. NCU is the SOS call habitually used by ships at sea needing urgent medical aid.

11. Rheumatic heart disease affects only the heart.

12. Infantile paralysis causes the greatest amount of crippling among children.

13. An unusual or diseased appearance of the retina of the eyeball means to the doctor examining it that the cause will be found in the eye.

14. A glass of hot nourishment just before retiring may help one to sleep more soundly.

NEW FINDINGS ABOUT

Apples

Explain Why They Are So Valuable as a Protective Food

Have you heard about this "health habit" we teach our youngsters out here in Washington State . . . our "Apple Hour"?

Here's the way of it. Every day we heap a bowl with red, juicy apples. Then, before the youngsters go to bed, everybody takes at least one good-sized Delicious or Winesap. We eat them slowly.

That's our "Apple Hour"—that time every evening. Scientists have found out some things apples do for you.

Apples are rich in substances which aid in promoting normal intestinal activity—are an aid to good regular digestion. Science also says our Washington apples are a good source of vitamins A and C. They are rich in pectin and provide an alkaline mineral residue.

Perhaps you'll want to start an "Apple Hour" habit at your house. This is the season to do it. For *free* booklet, write Washington State Apple Commission, Wenatchee, Washington.

Apples grown in Washington State are extra fine eating. They're picked at the peak of juiciness and flavor. Each apple is wrapped in tissue when packed. Every one is so crisp it crackles to your bite

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Peas, Beans and Lentils

By HARRIET MORGAN FYLER

LEGUMES are all those small, nubby seeds, commonly classed as vegetables, which belong to the Leguminosae, or pulse family. They may be peas, beans, lentils to the grocer, frijoles to the Mexican or flageolets to the French, but for convenience they are legumes to us.

Their forms are many and fascinating, some familiar, some exotic: sleek, greeny-tan jumbo lentils; Egyptian lentils like bright orange paillettes; bold black turtle beans; mottled pink and brown pinto beans; garbanzo like round wrinkled cashew nuts; yellow peas; green split peas; soyas; navies; limas (even the "baby" limas come larger than any of the other white beans); pansy-faced, with its dainty oval of black around the eye, or germ, of the bean—their names are legion. They all serve as a point of departure for many hearty meals the world around.

The pea, lentil, broad bean, chick pea and vetch, or Spanish lentil, have been cultivated since prehistoric times in western Asia and countries bordering on the Mediterranean. The ancient Hebrews considered lentils and peas to be the best foods for those who took to the battlefield. Daniel begged that he might not be defiled by the meat which Nebuchadnezzar had ordered for his food and requested that he might be allowed to eat pulse (lentils and peas). The incident is eulogized by Cowper, thus:

> Daniel ate pulse by choice—example rare!
> Heaven bless'd the youth, and made him fresh and fair.

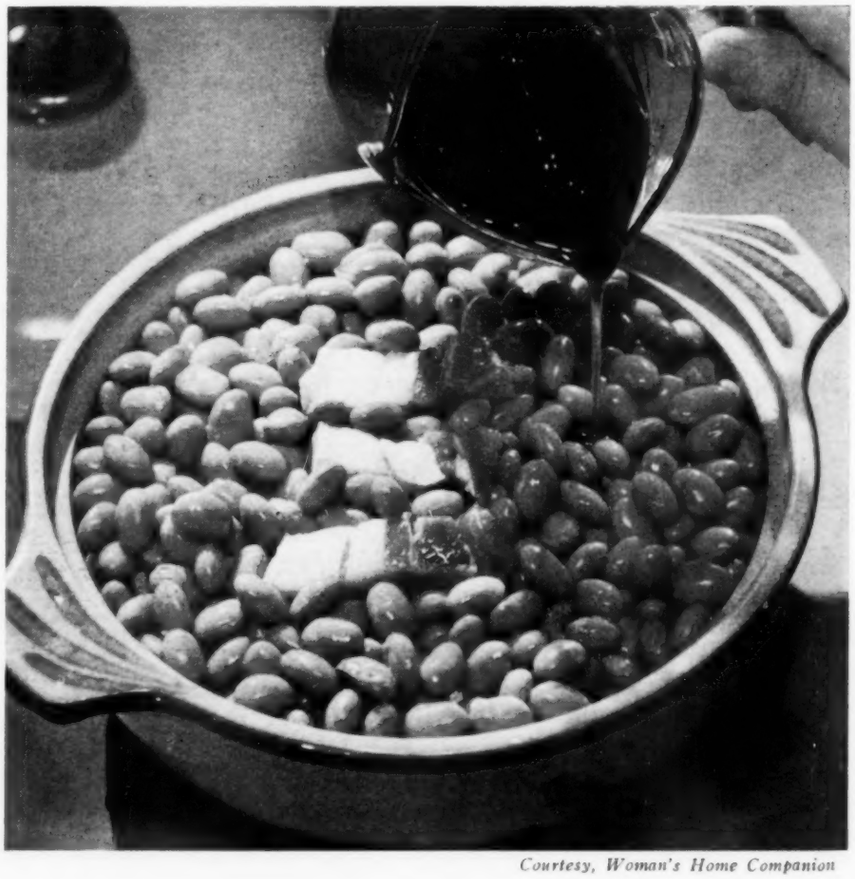
To this day, peas are considered a common provision for travelers in Egypt and western Asia. In the streets of Cairo and Damascus there are many shops where people do nothing but parch peas in a frying pan, in order to supply this valuable food to travelers who undertake long journeys. Dried lentils and broad beans are popular foods in Europe, as are also the chick pea and vetch; but here in America the pea is the only member of the family of Leguminosae that is popular.

The soybean is a native of China, where it has been cultivated and used as a food for centuries. According to Chinese legend, Hou Esi, one of the gods of agriculture, wishing to give man a superior food, planted a soybean seed. The seed prospered, and from its increase grew great crops, which for more than a hundred generations have supplied a valuable source of food to build and repair tissue in people who have never known the taste of cow's milk and have seldom eaten meat. Ancient Chinese books recount more than 400 ways of preparing the soybean. Green soybeans, boiled in water flavored with soy sauce or salt, are a favorite with Chinese, young and old.

A New England clipper, back from trading along the China coast, brought the first soybeans to this country in 1804. Then they were a botanical curiosity, and only fashionable houses grew the beans in their gardens. Today soybeans are a national crop used for food and industrial purposes.

While Europe had its broad beans, the seeds of a leguminous shrubby plant very different from the American beans, and the Orient had its soybean (the only beans known prior to the discovery of America), the Indians everywhere in North and South America "knew beans" and were cultivating numerous varieties when the Europeans first arrived. Even in New England the Indians were using the big, flat lima beans which originated in Peru and were mixing them with corn to form their *sauquauatash*, which was as pleasing to the palates of the white men as to the Indians and still is a popular dish under the somewhat corrupted name of succotash.

In addition to the lima beans, the Indians had green and wax beans and shell beans of many varieties: white beans, black beans, black-eyed beans, kidney beans, pinto beans, pink beans and navy beans. They knew how to cook their beans in nearly every style known to us today. From the New England Indians, the colonial housewives learned the art of preparing the baked beans which have made Boston famous. The Indian squaws



Courtesy, Woman's Home Companion

baked their beans in pits in the earth.

Legumes differ from all other vegetables in that they are richer in protein than other vegetables. While their protein is not "complete" enough to depend on without other proteins, such as meat, milk and eggs, legumes have more of this nutrient than any other vegetable. Starch is present in relatively large amounts in all legumes, and the fresh, succulent legumes contain sugars. Legumes also furnish liberal quantities of phosphorus, iron, copper and manganese and significant though relatively less abundant amounts of calcium. Most legumes, except peanut and soybean, contain only a small amount of fat. As the seeds mature, the percentage of water decreases, and the concentration of protein, carbohydrate, minerals and fat increases so that dried legumes are a concentrated source of both energy and protein.

Legumes count, too, as a good source of vitamin B_1 and vitamin G. Bean sprouts and green peas can claim vitamin C. As early as 1822 the antiscorbutic, or scurvy-correcting, property of raw peas was recognized. Phillipps in his "History of Cultivated Vegetables" described the food value of peas thus: "Peas, when green, are a pleasant, grateful, nourishing food, but somewhat flatulent and windy, as well as when dry. They are good to sweeten the blood, and when eaten raw are good for those who have caught the scurvy by eating salt meat or fish." Green soybeans, string beans and peas can claim vitamin A in addition to vitamins C, B_1 and G.

Because legumes are so rich in the essential nutrients and when dried keep practically forever (perfectly edible ones have come out of Egyptian tombs and Peruvian graves) and can be stowed in a comparatively small space, they have long been standard fare for those who embark on lengthy and strenuous expeditions. No prospector would dream of setting out on his quest for gold or other minerals without his quota of beans. No explorer would omit an adequate supply of legumes from his provisions. No lumberjack would be satisfied unless his baked beans were forthcoming, and cowpunchers on a round-up or a

"I HEAR YOU KNOCKED THE DOC COLD WHEN HE TOLD YOU TO QUIT DRINKING COFFEE!"
"NAW--- I WAS SWINGIN' ON HIM BUT HE HOLLERS "POSTUM!" SO I PULLS ME PUNCH."

IF YOUR DOCTOR clamped down on your drinking coffee, we'll wager you'd raise a howl.

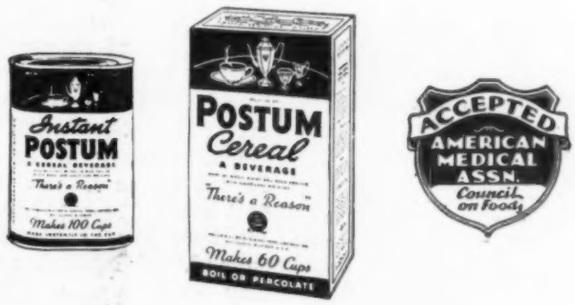
And we wouldn't blame you. For what's a meal without a good hot drink? But unfortunately, while a great many people can drink coffee without ill effects, the caffein in coffee disagrees with others.

The solution to "No coffee?" Easy ...when the doctor thoughtfully adds, *"Drink Postum instead!"* For Postum's delicious flavor, tantalizing aroma, and cheerful warmth persuade even the most fervent coffee-worshipper to forget tabooed beverages.

Best of all, Postum contains *no caffein*—indeed, no stimulant of any kind. It is simply whole wheat and bran, roasted and slightly sweetened.

Easy to prepare—economical!

Postum comes in two forms: *Postum Cereal*, the kind you boil or percolate, and *Instant Postum*, made instantly in the cup. It's delicious and easy to make either way—and economical (about ½¢ a cup). Postum is a product of General Foods.



A Delicious Beef Drink

that is kind to the stomach

• Good for everybody, BOVRIL "beverage beefsteak" is particularly welcome with individuals handicapped by delicate or impaired digestions. A boon to invalids, convalescents, elderly folk!

Made from prime, lean beef—under spotless manufacturing conditions—BOVRIL concentrate is famous for its purity and potency. A teaspoonful to a cup of boiling water, and you have a warming, soothing food-beverage that is also nourishing, taste-satisfying and gently stimulating. Hot BOVRIL chases chill, combats the feeling of fatigue, aids the digesting of other foods.

In cooking, BOVRIL extract adds tastiness and dietetic value to soups, broths, stews, gravies, "made" dishes.

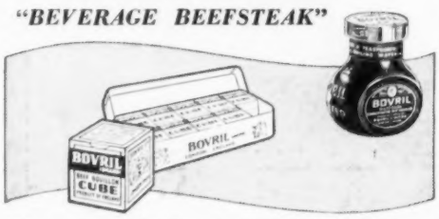
AT FOUNTAINS—10c A CUP—HOT

At drug and food stores, in jars for home, sick-room and hospital use.

BOVRIL OF AMERICA, Inc., Camden, N. J.

BOVRIL

"BEVERAGE BEEFSTEAK"



Also Bovril Beef Bouillon Cubes

"drive" would be almost as much at a loss without their beans as minus their ropes or their "chaps." Even armies "march on beans."

Government experts tell us that the 1938 crop of beans and peas is the largest on record. That means the price is down and on some varieties below average level. This is the year for housewives to look to their legumes—the world's most acceptable meat substitutes.

All legumes have two traits in common: They have more protein than any other plant food, and when dried they take practically forever to cook. But what an escape they are from the ritual of lamb, beef, pork or fowl!

What to do with dried legumes? One of the most familiar versions is still one of the best—baked beans. Most epicures of Boston baked beans look for a species of pea bean for their prized dish, and some of them swear only by the yellow-eyed species. Legume loafs may be safely regarded as either vegetable or meat, according to the exigencies of the menu. They make a superior main dish for a hot lunch.

Soups, of course, are the most usual use for the legume. Soup can be made of any legume. Soak overnight, and boil the beans or peas in 2 quarts of water to the pound. Ideally, this should be the water in which a ham butt has boiled till soft. Put into the pot with them anything that would add savor to the finished product—a slice of salt pork if there were no ham stock, a couple of stalks of celery, a whole onion, clove, some parsley, a pinch of marjoram and thyme. Boil gently until tender, which will be between three and four hours; then put the legumes through a sieve. Reheat, add salt and pepper, and serve hot. If peas have been used, a small Vienna sausage for each portion added the last hour of cooking is a handsome addition. Quantities of vegetable, cut Julienne fashion, added to any legume soup make a variant of minestrone that is delicious with cheese sprinkled over the top.

What to do with fresh legumes? Peas are one of the legumes that find a way to our board the year around either fresh, quick-frozen or canned. The pea has gone a long way from its wee wrinkled predecessor imported from Holland in the early part of Queen Elizabeth's reign "as fit dainties for ladies." Botanists have developed new varieties of peas, varieties that can be transported thousands of miles at suitable temperatures and appear in their pristine beauty at the terminal point. Other varieties have been developed that are suitable for canning, and still others are adapted to the quick-freezing process of preservation.

When buying fresh peas in the market, look for well filled pods, otherwise there will be an excessive waste. If the pods appear yellowish or are flecked with specks of gray, the vegetable is overmature, and the peas are apt to be hard and starchy. Peas lose their sweetness and delicate flavor as they mature. Young pea pods are brittle enough to snap easily. Peas should be cooked as soon as they are separated from the pod. The shelled peas are added to just enough boiling water to prevent scorching and are boiled as rapidly as possible until tender. The length of time will depend on whether the peas are young or more mature, but usually from 10 to 15 minutes is sufficient time to allow for cooking. The water in which the peas have been cooked should be utilized, as much of the vitamin C found in the uncooked pea passes into the cooking water.

When peas are subjected to the quick-freezing process, the cell structure is somewhat broken by the small ice crystals that are formed. But this fact is really an advantage. One of the chief reasons for cooking vegetables is to break down cell structure. Thus a third or a half of the cooking time is lopped off when peas are quick-frozen.

Commercially canned or appropriately home canned peas require only heating.

Commercially canned peas are commonly graded into five or six sizes. The smallest peas are known as No. 1, tiny or petit pois; the next size is No. 2, or extra sifted; the next is No. 3, or sifted; then come No. 4, or early June; No. 5, or marrow fat, and No. 6, or telephone, the largest size canned. Some canners now make only three grades according to size (small, medium and large), and the labels bear these designations.

Peas of average size are fine for use in casserole dishes and stews or when creamed. The more mature

peas lend themselves especially well to soups and purées and for making soufflés and timbales. The tender peas, whether small or large, are most popular buttered or in cream. If the liquid from a can of peas is not wanted in the special method used for serving the peas, save it for use in soups or gravies, as it contains part of the food value of the raw pea.

Peas make attractive garnishes for lamb patties, lamb chops, meat or fish loaf and roast leg of lamb. Canned peas, thoroughly heated in their own liquor with a sprig or two of mint and properly seasoned, are as necessary to lamb as apple sauce is to roast pork.

Chili Con Carne (Quick Method)

1 pound ground beef
1 tablespoonful fat
1 chopped onion
1 clove garlic
1 can red kidney beans
1 teaspoonful salt
Dash of pepper
2 to 4 teaspoonfuls chili powder
1 can cream of tomato soup
1 cupful grated cheese

Brown the meat in the fat; then add the chopped onion and garlic. To this add the kidney beans, tomato soup and seasonings, and heat thoroughly. Just before serving, top with cheese, and put under the broiler to melt.

Lima Beans with Cheese

1 cupful milk
1 package pimiento cheese (4 oz.)
1 teaspoonful salt
1 teaspoonful celery salt
½ teaspoonful onion salt
1 teaspoonful paprika
1 teaspoonful allspice
1 teaspoonful A-1 or Worcestershire Sauce
3 cupfuls cooked dried lima beans

Cook milk and cheese in double boiler until cheese is melted. Add seasonings and beans. Put into oiled individual baking dishes in a hot oven until brown.

Baked Lima Beans

1 pound dried lima beans
½ pound sliced bacon
½ cupful brown sugar
4 tablespoonfuls butter

Wash the beans, and soak them overnight in water to cover. Cook for one hour over low heat. Put half the beans into a baking dish or casserole; cover them with brown sugar and dots of butter, and lay strips of bacon across the beans, completely covering them. Then put in the rest of the beans, and cover them in the same way with brown sugar, butter and bacon. Bake in a moderate oven, 350 F., for half an hour. This dish has a most unusual and enticing flavor. It is the kind that men will smack their lips over, and the children will love it for lunch.

How to Cook Dry Lima Beans

To revive the fresh, juicy tenderness of dried limas, pick over, wash and soak them in cold water from six to eight hours, or overnight. Drain. Cover with boiling water, and cook slowly until tender (about 30 minutes). Add salt after cooking 20 minutes.

Lima Bean Soup

1 cupful dried lima beans
1½ quarts cold water
4 slices carrot
2 slices onion
4 sprigs parsley
1 teaspoonful peppercorns
2 cupfuls evaporated milk
1 tablespoonful A-1 or Worcestershire Sauce
2 teaspoonfuls salt

Wash beans; cover with water, and soak several hours. Drain. Add the cold water, and cook slowly until very tender, about one hour. After cooking one-half hour, add vegetables and peppercorns. When beans are tender, rub through a sieve. There should be 3 cupfuls of pulp and liquid; if not, add water to make that quantity. In the meantime have evaporated milk heated to scalding point. Combine bean pulp and seasonings with milk just before serving.

with

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that just before and after baby arrives it is important to give the breasts the upward converging control obtained only by the Patented A.P. Uplift, designed by Mme. Poix. Prescribed extensively and used by Hospitals and Maternity Centers.

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A refreshing food drink. Full-bodied richness! Never thin or watery! High vitamin content!

HURFF TOMATO JUICE

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For EVERY MILK PURPOSE

● Particularly for infant feeding, Van Camp's Evaporated Milk is widely recommended by physicians because it is uniform in composition and readily digestible. Used in cooking, it adds a rich, creamy flavor to many dishes. Contains double the amounts of fat, protein, minerals and milk sugar in cow's milk. Sterilized and homogenized.

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Church's Pure Natural Grape Juice ●
made from properly ripened grapes. Contains no added sugar, water or other substance whatsoever.
Free from the excess acid of unripened fruit.
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● Made by a new process that whips the goodness of the pure, pasteurized fat-free milk and wholesome vegetable oils right into the product.

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WRITING TO ADVERTISERS

DO YOU LIKE GOOD CREAM CHEESE?
HAVE YOUR DEALER SHOW YOU THE NAME
Breakstone's
WHEN HE CUTS YOUR ORDER

THIS TOMATO JUICE IS NEVER THIN OR WATERY
High retention of nutritional values because made by patented process. The Sun-Rayed Co., Frankfort, Indiana.

AMERICA'S BEST-KNOWN BABY

Only Gerber offers Shaker-Cooking for better flavor.
Gerber's
BABY FOODS

BOSTON BAKED BEANS

1 quart pea beans
¾ pound salt pork sliced in ¼ inch thick slices
1 tablespoonful salt
3 tablespoonfuls maple or brown sugar
2 tablespoonfuls to 1 cupful molasses (according to taste)
½ teaspoonful mustard

Wash beans; cover with cold water, and soak overnight. Drain; cover with fresh water; heat slowly (keeping water below boiling point), and cook until skins burst. Simmer pork in hot water; drain, and cover bottom of bean pot or casserole with slices of pork. Mix molasses, brown sugar, mustard and salt with cooked beans. Put the mixture in bean pot; cover with pork. Cover bean pot or casserole, and bake 6 to 8 hours in slow oven (250 F.). Uncover the last hour of cooking so that the pork may become brown and crisp.

LEGUME LOAF NO. 1 (WITH RED KIDNEY BEANS)

2 cupfuls red kidney beans
1 cupful soft bread crumbs
1 cupful chopped green peppers
1 tablespoonful chopped onion
1 tablespoonful parsley
Pinch of sage or savory
Grated cheese

Soak the beans, and boil until soft. Mash. Add green peppers and seasoning. Mold, and coat with buttered crumbs (or with beaten egg). Bake in buttered pan half an hour in moderate oven, basting with the liquid in which the beans were cooked. Serve with something vigorous, such as horseradish, chili sauce or chutney.

LEGUME LOAF NO. 2 (WITH LIMA BEANS)

Follow directions for Legume Loaf No. 1, substituting 2 cupfuls lima beans for the red kidney beans, and 1 cupful celery and tomatoes or 1 cupful crisped bacon and pimiento for the green peppers.

FRIJOLES

1 pint red kidney beans
2 onions
2 tomatoes
½ green pepper
3 tablespoonfuls olive oil

Soak beans overnight, and boil. Slice onions, tomatoes and green pepper into olive oil in heavy frying pan. Fry till onions are brown; add beans, and fry till edges are crisp.

THE DEATHS IN GOLDEN SQUARE

(Continued from page 158)

least a hundred deaths. There were, however, but five.

But the workhouse, having a well of its own in addition to a supply pumped in by the city, never sent for water to the Broad Street pump.

There was a brewery in Broad Street with seventy workmen, not one of whom contracted cholera. It, too, had a well of its own and, in addition, an allowance of malt liquor was made to the employees who therefore had no reason for recourse to the Broad Street pump.

The cartridge factory was likewise on Broad Street; and among its 200 work people, eighteen died of cholera, more being taken ill with the disease. They were indeed unfortunate that it was the custom to keep two tubs constantly filled with water from the Broad Street pump for drinking purposes.

The story was always the same: Those who drank from the Broad Street pump got cholera; those who did not, escaped. And when, by the removal of the pump handle, it became impossible to secure water from the pump, the cholera died away, and the carnival of death in Golden Square was over.

So, in 1855 at his own expense Dr. Snow published a report on "The Mode of Communication of Cholera" which, even today, can be taken as a model of accurate observation, logical deduction and clarity of exposition. One year later, while on a visit to Paris with his uncle, he entered a copy of the report of his investigations at the "Institute" in competition for a prize of 1,200 pounds offered for the discovery of a means for the prevention or cure of cholera. The curious may look in vain in the report of the judges for any mention of this historical and epoch-making study, but the philosophic will not be surprised to find that it was completely ignored.

Sir Benjamin Ward Richardson, a friend and contemporary of Dr. Snow, has succinctly summed up his qualities in three short paragraphs: "For John Snow as a representative man of medicine of the Victorian era, we may claim poetic thought, less the poetic expression, combined with industry, perseverance, and the courage to express his own opinions boldly when founded on what he honestly

felt to be the truth, and if not the whole truth, nothing but the truth.

"He had a patience that was inexhaustible, a devotion for labor unsurpassed, and a slow but sure and reliant comprehension and comprehensiveness which were not easily seen because of their extent. He combined with a stolid firmness distinctively Saxon a rare talent for penetration into obscure problems, for casting aside objects which are coincidental or accidental, and for seizing determinately the objects for which he sought.

"These attributes, if they do not constitute genius, consecrate life; and represented by and through a man, a family, or a nation, make the choicest history of the grandest eras."

And with this as an epitaph we may leave Dr. John Snow wrapped in a mantle of enduring fame.

How prevent plagues? Removing the handle from a pump stopped an epidemic of cholera in the nineteenth century. For those of us who live in the twentieth century, research and experiment have provided scientific knowledge—a sure, swift weapon against the attacks of these scourges. How epidemics are prevented will be dramatically portrayed in a broadcast (February 1) presented by the American Medical Association and the National Broadcasting Company. For further information, see page 168, and for still further inspiration, watch for the new series, "Mysterious Epidemics in History," which will begin in the March issue of Hygeia.

SAFETY SONNETS

ONE LIGHT FOR A MINER IS SAFE AND OKAY,
HE CAN WORK UNDERGROUND AND WHISTLE AWAY
BUT ONE LIGHT ON A CAR IS A PRACTICE UNSOUND,
IT MAY PUT THE DRIVER HIMSELF UNDERGROUND!

—National Safety Council

FACTS FOR ALL PIE FANCIERS

"But I, when I undress me
Each night, upon my knees
Will ask the Lord to bless me
With apple pie and cheese."

Eugene Field

Pie is an American Institution. And why not? It is appetizing, digestible, nutritious.

Fruit pies. Blended with apples, peaches, apricots, raisins, prunes, berries, and a host of other pleasing fruits. What better way to add these protective foods to your diet.

Custard pie and cream pie. Made from eggs, milk, butter, cream, and sugar. Nourishing combinations of our most valuable nutrients.

Pumpkin pie and squash pie. Mince and meringue. A palatable variety for tasty desserts.

With crisp, brown crusts that melt in your mouth. With nutmeg and cinnamon. With flavors and spices. Food for the family, a dish for the epicure.

Make pie a *part* of the meal, rather than a mere addition to it. For necessary food-energy. For minerals, proteins and vitamins.

Your baker makes good pies at reasonable prices. Let him save you labor and expense. Let him serve you today and every day.

DEPARTMENT OF NUTRITION
AMERICAN INSTITUTE *of* BAKING
9 ROCKEFELLER PLAZA
NEW YORK CITY, N. Y.

TRAINING for MARRIAGE

(Continued from page 106)

though unobtrusive guidance as is required to keep social activities in sane and sensible channels will enhance and not jeopardize their children's marriage prospects.

Here may be mentioned, merely to dismiss it as unworkable and highly dangerous, a substitute for the real thing that has sometimes been mentioned as a preparation for successful marriage. This is the experimental temporary mating that has of recent years had some literary vogue, if not actual practice, as "companionate marriage."

Companionate marriage is not at all the new thing it has been claimed to be. It is nothing more or less than the old discredited idea of "trial marriage," with the idea of birth control added to make its consequences less binding. The fallibility of this measure alone is sufficient to render the whole idea visionary; but even worse is the violence it does to all the ideals and concepts that make real marriage binding and satisfying.

Quite a contrast to this devastating experience that does so much to wreck permanent union when young people experiment with it is the perfectly justifiable and highly desirable temporary and tentative experimenting of boy and girl friendships that are so common in late adolescence. To be sure, these are sometimes harmful, especially when they take the color of mutually exclusive "affairs" which lead one or the other of the participants to consider them more binding than they really are intended to be by the sharer of the experience. These sometimes assume serious proportions, especially in coeducational colleges, where they may take on the binding power of actual engagements without the good features of this more orthodox social arrangement. They had best be looked on by college authorities as something to be watched closely lest they develop into entanglements that harm rather than help permanent successful marriage.

It would be hard to overestimate the important bearing on successful eventual marriage that is exercised by the way in which young people manage the formal engagement period. During this time there is generally permitted an open display of affection that is considerably greater than would have been considered good form before and that carries with it dangers that are very real.

Some time in the course of the years preceding marriage, place should be found for some accurate, adequate and authoritative instruction in what has been called the art of love. It may be that the engagement period is the best time for this; though on the other hand it may be more desirable to give it before it becomes quite so highly personalized as it does when the marriage choice has actually been made. At any rate, it is highly important that such instruction should be available to every young person before actually entering into the highly complicated and emotionally polarized state of marriage.

It is appalling what an abysmal ignorance of the physiology and psychology involved in marriage is brought to this union by the majority of those who enter into it. The discerning family physician, the pediatrician, the psychiatrist and the divorce court judge find that an appreciable part of their work is due to this very thing. Without some elementary familiarity with a technic of marriage based on these underlying principles, it is obvious that success in marriage is not probable; and the experience of any of these specialists will bear out the truth of the statement.

Sources for securing this expert instruction are not yet as widespread or as fully developed as they ought to be and no doubt soon will be. Family doctors, obstetricians and genito-urinary specialists can be relied on for the performance of the necessary physical examinations; but they are not always prepared for the instruction in marriage technic that is so desirable. Marriage clinics meet the need especially well, particularly when they are staffed and administered by the medical profession, as should always be the case. Wiser and older men and women can frequently do an immense service to their young friends by helping them achieve the sort of instruction they need.

Building a cathedral, painting a masterpiece and composing a symphony are all successful solutions of definite problems. They are the results of definite design, carried to fruition after adequate preparation. Without such preparation the cathedral will be a tragic heap of twisted girders; the masterpiece, a daub; the symphony, a bedlam of discordant sounds.

No structure is more imposing, no picture more lovely, no symphony more soul satisfying than a successful marriage. And no failure is more tragic than that which stands confessed when a battered romance drags its sordid remains into and through the divorce courts. We have never yet seriously considered the prevention of such tragedies as are coming to be so common in our national life, by anything more statesmanlike than moral preachments against the evils of divorce.

But we are beginning to see light. And it comes from those parents, here and there, infrequent as yet though increasing in numbers, who take this matter of the preparation of their children for successful marriage seriously enough to be willing to give some thought to it. For such serious preparation for successful marriage, undertaken from early childhood, would have obviated a vast number of these self confessed marital failures.

When the importance of adequate preparation, that is taken for granted in so many other fields, comes to be appreciated in this, we shall begin to see a decrease in the unnecessary wastage of human happiness and efficient living now registered in the rising tide of divorce that is giving cause for such serious concern to thinking people today.

NATIONAL SOCIAL HYGIENE DAY

February 1 will mark the third annual observance of the current attack on syphilis and is to be known as National Social Hygiene Day. "Guard Against Syphilis" is the slogan for the 5,000 meetings held on that day to highlight present community campaigns against syphilis. The American Social Hygiene Association, which is sponsoring this observance, believes that this concentrated activity will focus public attention on vital next steps in the conquest of syphilis.

QUESTIONS AND *Answers*

Do Cosmetics Contain Coal Tar?

To the Editor:—Please send me a list of cosmetics that contain coal tar and are therefore harmful to the skin and may cause external cancers. We know there are such products on the market but do not know the specific brands.

F. W., Iowa.

Answer.—There are probably no cosmetics on the market that contain coal tar. Cosmetics may contain coal tar dyes that are used as coloring agents. These dyes are officially acceptable, and there is no reason to believe that they are harmful.

Coal tar is used in ointments and other preparations, particularly in the field of skin diseases. These products are prescribed by physicians and are officially acceptable.

Machines for Reading Tests

To the Editor:—The principal of our practice school has purchased the Betts Telebinocular machine for remedial reading clinic. Just the children who have difficulty in reading are given the test, which takes ten minutes to give. Is this superior to the Snellen test?

G. R., New York.

Answer.—It has been definitely decided from investigation that the Betts Telebinocular machine is not superior to the Snellen test for visual acuity. A committee of the American Medical Association is at the present time investigating further concerning the Betts machine, and a complete report should be available soon. The fact that only children who have difficulty in reading are given this test would indicate that the entire examination is not complete. With the current epidemic of teaching of sight reading, there is an obvious omission of learning the alphabet. There are many children, more often those who are left-handed and left-eyed, whose natural tendency is to read from right to left. Because of this fact, reversals of words are frequently found and change of complementary letters such as the lower case *b* and *d*. Such a condition has been known for many years, and recently Marion Monroe has written a book about it entitled "Children Who Cannot Read." For all practical purposes, it is true that at twenty feet, muscles of accommodation do not act. The Snellen chart is also constructed for testing at the reading distance.

It must be understood that the entire question of vision is made up of several factors: notably, the form sense, the light sense and the color sense. In addition to these, accommodation plays an important role, and the size of the pupil has its influence. It is obvious that necessarily only a complete examination will reveal ocular difficulties.

Wool Underwear for Children

To the Editor:—Is it true that physicians oppose the use of wool in children's underwear? I have heard that the reason for such opposition is that wool irritates the skin. I can understand that a child may be sensitive or allergic to wool, but isn't that rather uncommon? Would a garment that is made of two layers with the wool layer on the outside meet the objection of the irritant effects of the wool?

C. S. M., Illinois.

Answer.—A pediatrician, especially interested in communicable diseases, says:

"Physicians do, on occasion, oppose the use of wool in children's underwear. Wool is often irritating to the delicate skin of infants and sometimes to older children. Some distinction should be made between a mild irritation from wool and a definite allergic reaction.

"An undergarment that has a cotton layer next to the skin and the wool layer outside might not cause direct irritation of the skin, and yet

Harold M. Lambert

if the child were truly allergic to wool, a reaction might occur because of the possibility of inhaling particles of the wool.

"In the modern home, properly heated, cotton underwear is generally preferable. Cotton is less expensive and is more easily washed than wool."

An assistant professor of dermatology at a large university says:

"Physicians are not opposed to the use of wool in children's underwear except in cases of wool sensitivity and cases of extensive eczema. True allergic sensitivity to wool is uncommon, but in cases of eczema that are in no way caused by wool, garments of wool may nevertheless increase the itching, and their use is contraindicated for that reason. A garment made of two layers, one of wool on the outside and the other of cotton or silk on the inside, would meet the objection to the use of wool in cases of eczema and would probably meet objection to wool in case of a specific sensitiveness to wool, though in the latter instance the recommendation for such a garment is made only with reservations, since sensitivity to wool in certain cases may not be confined to contact of wool with the skin and may also be the result of sensitization through inhalation of fine particles of wool."

A practicing pediatrician, professor of pediatrics at a university, says:

"The kind of material used for children's underwear is chosen largely on the basis of the living conditions of the child. In summer, cotton is preferable to other fabrics because it is cooler. If in winter the child lives in a home and goes to a school in which efficient central heating exists, it is usually considered advisable to have underclothing much the same kind as is worn in summer, extra outer clothing being worn when the child is outdoors. For children living in homes in which the temperature is widely variable in the winter or in which the heating facilities are not wholly adequate, a warmer underclothing is often desirable. The decision on this point should be made individually for each child and should be based on the temperature of the place where he spends most of his time. When greater warmth in underclothing is desired, wool or a mixture of wool and cotton is commonly used, though the desired effect may be obtained with a garment made of heavier material than is used in garments intended for summer use.

"Some physicians believe that some wool is desirable in the underclothing, while others prefer to have the wool in the outer garments. The choice between these views seems unimportant if the condition of the baby is kept in mind. At all times the baby should be dressed in such a manner that his skin feels neither hot nor cold to the touch, and it should not be damp from perspiration.

"Wool next to the skin tends to scratch or irritate the skin mechanically, especially when the external temperature is high or the body is warm from exercise.

"Many retail stores stock only cotton underwear for babies, and often the impression is obtained that other varieties are no longer made."

A bacteriologist says:

"Many physicians oppose the use of woolen underwear for infants for the following reasons:

"Woolen fabrics enmesh more air and hence reduce the ease of the outward movement of body heat. This is why flannels are worn in cold climates. Woolen fabrics when moistened hold the water longer than other fabrics; the moisture plus the entrapped air insulates the body still more against heat loss.

"A baby uses his skin to maintain body heat and to excrete moisture more than the adult. The less these functions are interfered with, the better. Woolens are objected to more because they hold too much heat and hence irritate the skin by forming a cushion of hot moist air between the woolen garment and the skin.

"Some physicians recommend that a layer of silk be placed next to the skin covered by a layer of soft wool."

Sweet Corn and Sleeping Sickness

To the Editor:—We have been informed that a Chicago scientist has made some investigation with reference to sleeping sickness and reports tracing the cause to canned corn. What can you tell us about it?

R. D. C., Kansas.

Answer.—The Bureau of Health Education has not been able to verify the statement that sleeping sickness has been traced to canned corn by any Chicago scientist. An article entitled "Corn and Sleeping Sickness," in which is mentioned a report given by Alma Jessie Neill from the department of physiology at a state university, appeared in a weekly magazine. In an abstract, Professor Neill and her co-worker make the following statement:

"Experimentation with white rats, kittens, and monkeys, all of which animals were fed alcoholic extract made from abnormal sweet corn gathered in 1933 in the fields close to the area from which the . . . residents were supplied with garden produce, showed that these animals had the same symptoms, the same type of death, and the same physical disorders revealed by post-mortem which the patients had of the . . . encephalitic epidemic of 1933."

A vast amount of study has been made concerning the causative agent of this encephalitis epidemic. A disease has been produced in white mice by taking brain tissue from fatal human cases and introducing it into the brains of mice. The disease produced in mice can be transmitted in series from mouse to mouse by using brain emulsions from the infected animals. The infectious agent is a virus which will pass through filters that remove bacteria. The strongest evidence in favor of the virus causing encephalitis is that the blood serum from people convalescing from the disease, if mixed with infected brain emulsion, will neutralize the virus and completely protect mice injected with virus serum mixtures. Pooled blood serum from people not having the disease does not afford protection.

Professor Neill's report makes no mention of the virus nature of the disease. Furthermore, the virus has been shown not to produce the disease in inoculated rats or kittens and only a mild nonfatal disease in the monkey. The Bureau of Health Education has no evidence at present to indicate that abnormal sweet corn was the cause of the encephalitis epidemic.

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a three-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed. Anonymous letters are ignored.

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YOUR EYES (Continued from page 138)

of failing vision presupposes a complete knowledge of the structure and function of the visual mechanism and the interrelationships that exist between it and the rest of the body. This knowledge becomes an integral part of the training of the eye physician. Therefore, the approach of the eye physician to every case of failing vision consists first of all in ruling out any existing disease or abnormality as a possible cause.

When any deviation from the normal is found it may by its characteristic appearance and location suggest the possible cause. In the more obscure cases the eye physician will utilize every known means to determine its exact nature. Before a diagnosis can be made, he may frequently have to consult specialists in the various other departments of medicine as well as call to his aid the clinical and x-ray laboratories.

Once the exact cause of the disturbance is determined the patient is next urged to submit himself to an outlined course of treatment for its cure. In the event that the disturbance of vision is caused by faulty shape of the eyeballs the exact nature and degree of the deviation must next be determined with utmost precision. For on the accuracy of this investigation will depend the correctness of the deductions in regard to glasses. Most people think nothing of purchasing glasses over the counter, sold to them after a so-called "free examination." The fitting of glasses, contrary to general belief, is a highly technical procedure and requires thorough training and judgment. Many persons wonder why "drops" are used by the eye physician when fitting for glasses. By using drops the eye physician merely utilizes one more means at his command to obtain accuracy in his examination. The use of drops is an almost indispensable means in many cases, especially when testing the eyes of children and younger adults. Drops also dilate the pupils and thus allow free access to the inspection of the interior of the eyeballs.

The examination having been completed, the eye physician must decide first of all whether glasses are indicated at all in a given case. For not every departure from the normal in the shape of the eyeball necessarily implies the need of glasses. Every case must be considered in relation to the age, the occupation and the degree of unaided vision of an individual. Glasses now or previously used must likewise be taken into account. What the examiner, in short, seeks to accomplish in his final prescription for glasses is to correct a physical abnormality of the eye and enable his patient to see with greatest possible ease and comfort.

No matter how accurately the prescription for glasses is arrived at by the eye physician, it frequently fails to give the best results in improved vision and comfort because of defective materials and workmanship used in making the glasses. Good lenses are produced from optical glass of the finest quality. In its manufacture, materials of highest chemical purity are used, and each step in the process aims at obtaining a finished product of the highest degree of clearness and transparency, free from bubbles, scratches and other defects commonly found in lenses of

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inferior make. Lenses are also designed in various different forms, toric and flat, with or without corrected curves, and with single, bifocal and trifocal lenses. The type of lenses to be used will depend on the individual case. It is also important that frames and mountings be of proper quality and measurements. In every city there is at least one reputable optical house, and possibly several, known to produce glasses of highest quality and precision. The prescribing oculist invariably urges his patients to have their glasses made at such places. The public will do well to heed such advice and not be diverted by misleading advertising and supposedly low cost into accepting glasses of poor quality and workmanship.

In this discussion no attempt has been made to deal with the vast variety of visual disturbances. Within the limited scope of this article my aim has been rather, by means of suitable material, to give the lay reader a proper perspective from which to view this important subject. Blindness is largely preventable. This is especially attested by the accomplishments in this direction by various private and public agencies in cooperation with the medical profession within recent years. Only a short time ago many were condemned to a life of darkness and despair from the moment of their birth; now these calamities are rarities even in the larger clinics, largely because of the untiring efforts of some courageous workers in convincing reluctant legislators to enact the so-called "Silver Nitrate Law," which effectively prevents gonorrheal eye infections at birth. Similarly cases of blindness resulting from industrial eye injuries, which were once so frequent, have now been largely brought under control in the larger industrial plants through the adoption of various safety measures. The compulsory wearing of goggles mounted with lenses of hardened or unshatterable glass is one of those measures which protect the eyes from flying fragments which might otherwise cause injury and infection.

It is similarly within the range of possibilities that a pure food and drug act may yet effectively protect the public against dangerous poisons injurious to sight, which are contained in various commercial preparations advertised for such things as reducing weight, removing superfluous hair and dyeing hair. A law which would put a stop to the manufacture and indiscriminate sale of such dangerous preparations to an unwary public would indeed be a genuine contribution to public health.

Many cases of preventable blindness, however, are by their very nature not amenable to control by public or private agencies. This especially applies to loss of sight secondary to systemic diseases. If blindness or loss of vision is to be effectively controlled in these cases, it must be done with the intelligent cooperation of the public. This is possible if the public is brought closer to the doctor's point of view through popular enlightment on topics concerning health and well being.

Answers to "What's Your Score?"

(See questions, page 173)

1. False. Hodgkin's disease may grow as a diffuse infiltrate in organs and tissues and simulate a variety of other diseases. *See page 152.*

2. True. *See page 104.*

3. True. *See page 110.*

4. True. *See page 129.*

5. False. The cause of syphilis is a specific germ called Spirochaeta pallida. *See page 142.*

6. False. Compulsory sickness insurance was first proposed by Bismarck in 1883 and has since affected to some degree a large part of the civilized world. *See page 119.*

7. True. *See page 145.*

8. False. Legumes differ from all other vegetables in that they are richer in protein than other vegetables. *See page 174.*

9. True. *See page 189.*

10. True. *See page 113.*

11. False. Rheumatic heart disease is a generalized disease in which probably every tissue in the body may be involved. *See page 139.*

12. True. *See page 131.*

13. False. Most changes in this membrane are not due to local causes but to internal diseases. *See page 136.*

14. True. *See page 107.*

BOOKS ON HEALTH

[NOTE.—Books reviewed or mentioned in this section, other than those published by the American Medical Association, should be ordered from booksellers or direct from the publishers. They may not be ordered through HYGEIA or the American Medical Association. Publishers' addresses will be found at the end of the section.]

Rediscovering the Adolescent

By Hedley S. Dimock. With a foreword by Hugh S. Hartshorn and pictographs by Harold E. Haydon. Price, $2.75. Pp. 287. New York: Association Press, 1937.

THE feeling is quite general that the adolescent is the individual that nobody knows! Adults have often compared adolescence to a mysterious disease. It is expected during the teens. The onset is sudden. There is a marked change physically dominated by rapid growth in height and weight. Marked changes occur mentally. There is general lack of emotional balance. Boys and girls become sex conscious, less susceptible to parental guidance and exceedingly emotional. Many parents confess themselves helpless, and some throw up their hands in despair, trusting that good luck may carry their progeny through this critical illness.

It is probably true that adolescent psychology is about the weakest point in our educational psychology. Its beginning was marked by personal opinion, superficial observation and a minimum of scientific data. As a result, in the words of Mr. Hennessey, "we know a lot that ain't so." Within the last few years the fog about adolescence has been clearing up. Most recent writers have been suspicious about the violent explosion of boys and girls into adolescence. Among these writers is Dr. Hedley S. Dimock who has just finished a scholarly investigation of the lives of 200 adolescent boys for two years, thus covering the critical period of prepubescence to postpubescence. The result in the mind of the author is the rediscovery of adolescence. This new point of view is so different from traditional conceptions that the real understanding of the adolescent seems to be blocked by ignorance, prejudice and defective social practice. There is so much misconception in the use of the word "adolescence" that the author suggests that we might wisely "declare a moratorium on the use of the word 'adolescence' for a decade or two."

What does the author find? To quote him: "We have observed nothing on the adolescent level that could be called *unique*." Growth is to be conceived of as gradual, so gradual that it cannot be detected except over long periods of time and by the finest kind of measurement. Abruptness of change is not common in adolescence, and the changes that take place are not so numerous or so far reaching as have been assumed in the past. The changes noted by the author appear in the main to be unrelated to pubescent development. Social rather than hereditary factors are stressed.

Whatever one may think about this book it is not to be "laughed out of court." It should be a challenge to all those who wish to know the adolescent better.

J. MACE ANDRESS.

In the Name of Common Sense

By Matthew N. Chappell. Cloth. Price, $1.75. Pp. 192. New York: The Macmillan Company, 1938.

THIS little book is devoted to an analysis of what the author calls the "worrier." Chappell makes no attempt to differentiate between a person suffering from an anxiety neurosis, one who has a depressive psychosis with suicidal tendencies, and the naturally apprehensive or fearful person who has inferiority feelings or some other mechanism—all cases with symptoms which might be called "worry," even though their etiology varies greatly.

Chappell is attempting to create one of these self help books whereby the individual can correct his worrisome tendencies; this, in spite of the fact that he himself says that it is no use to tell a person not to worry or that he can control his thoughts. There is nothing in the volume to explain any

dynamisms of human conduct, but it must be admitted that it is attractively written and is interesting. There are a number of bits of advice in it which, if the doctor can get his patient to follow them, are likely to be helpful to the worrisome type of person. The volume is lightly written, much like Dale Carnegie's book and is full of "human" illustrations of worriers' problems and how the author has corrected people who are inclined to be worrisome. It is true that Dr. Chappell, a psychologist, has had the benefit of excellent training under an eminent physiologist and has had a great deal of success with people who have come to him for advice about their problems. He has not attempted to solve these problems in a medical way—as a matter of fact, he rather scoffs at modern psychiatric procedures. As a personal venture, at least if one can judge from his book, he has been able to make a number of people who were rather unhappy feel better by the time he was through with them. The book can scarcely be recommended for the uncritical reader; but for a psychiatrist who is trying to use every means at his disposal to help his patients it might be well to be acquainted with it, for it may serve a particular need in some functional case. LOWELL S. SELLING, M.D.

Collected Studies on the Dionne Quintuplets

By W. E. Blatz, N. Chant, M. W. Charles, M. I. Fletcher, N. H. C. Ford, A. L. Harris, J. W. MacArthur, M. Mason and D. A. Millicamp. Price, $4. Pp. 238. Illustrated. Toronto: The University of Toronto Press, 1937.

THE birth of the Dionne quintuplets was a dramatic incident. It focused attention on an obscure country physician who was at once elevated to fame. His name soon became a household word. His charges, the five Dionne babies, became the most talked about children of the world. The curiosity of the public became insatiable. Every summer, thousands of tourists have driven past the little house where they are being so carefully reared.

Popular interest in these children is reflected in a scientific way in this series of biologic studies by members of the staff of the department of biology of the University of Toronto. Here we find careful studies of the mental growth, early social development, routine training and development of self discipline of the famous quintuplets.

Teachers of biology and health will find in this book a gold mine of material with which to brighten up their courses. Such information could be used in advance classes or down in the grades. What interesting lessons on health could be worked out in the elementary grades by referring to the health instruction and training which these children are receiving!

J. M. A.

Famous Stars' Favorite Foods

Edited by Fannie Sniff. Cloth. Price, $2. Pp. 245. Hollywood, Calif.: Fanny Sniff, 1938.

THE author of this book has published it in order to provide an education for her fatherless daughter and a livelihood for the family. It contains excellent reproductions of the photographs of some hundreds of movie stars and the favorite recipes of these stars beneath each photograph. Apparently no two stars like the same thing best, or perhaps that would have meant wasted space in the volume. In any event, there is a different recipe for every star, and some of them have two recipes. The combination of photographs and recipes makes it well worth the money. MORRIS FISHBEIN, M.D.

Emotional Adjustment in Marriage

By Le Mon Clark, M.S., M.D. Cloth. Price, $3. Pp. 261. St. Louis: The C. V. Mosby Company, 1937.

IN THE deluge of books pertaining to sex in marriage only infrequently do we find one that can be recommended for general reading by nonmedical persons. This book is one of these few exceptions that can and should find a place in the home of the newly married as well as those about to marry.

There are several chapters that deal with sex and love, the incidence of sex desire and love as a human attribute. Other chapters discuss the difference between "What Is Normal" and "What Is Moral." The honeymoon and the period after the honeymoon are also adequately discussed, as well as frigidity in the woman. The two chapters dealing with birth control in principle and practice are outstanding in the advice given and thorough in scope.

The author points out the value of premarital consultation and also shows that the consultation should be with the general physician, who is adequately informed in this field.

The entire volume can be recommended to those about to be

Intensive Rural Hygiene Work and Public Health Education of the Public Health Service of Netherlands, India

Batavia-Centrum, Java, Netherlands, India. Pp. 60. Illustrated, 1937.

THIS is one of the most significant chapters in health education that has been written. Picture to yourselves a tropical country inhabited by millions of brown people about equal in population to that of England. They are ignorant of modern medicine and hygiene and their environment is conducive to the spread of many diseases. Their habits are based on ideas founded on age-old superstitions and opposed to most modern health practices.

Previous to the beginning of this experiment it was concluded that the influence of medical treatment of the sick on health is slight, because this treatment could never reach more than a small proportion of the people who were sick. It was believed that good results might be gained through activities based on educational methods. Those in charge of this educational program found that these people did not like to be told too bluntly about their incorrect habits. They had to be led, not driven. The chief problem was to stimulate and guide them so they would want to live more hygienically. Because of the general backwardness of the population it was found that children might learn a particular thing at school but find it practically impossible to carry it out at home. It therefore became a problem to carry out hygiene work with adults as well as with children. The tact, ingenuity and psychologic insight displayed in this educational movement among these primitive people offer some suggestions of educational principles even to teachers and social workers in our own country. If you are interested in health education it will pay you to spend an evening with this fascinating volume. J. M. A.

married as a valuable book that presents interestingly but not at all sensationally the subject of sex in marriage.

The parent whose children have grown up and are preparing for marriage will find this volume an excellent one to give them.

PAUL A. TESCHNER, M.D.

Psychology Applied to Nursing

By Lawrence A. Averill, Ph.D., and Florence C. Kempf, R.N. Cloth. Price, $2.50. Pp. 471. Illustrated. Philadelphia: W. B. Saunders Company, 1938.

THIS is a textbook of psychology for nurses, written by the professor of educational psychology of the Massachusetts State Teachers' College and by the instructor of psychology of the Massachusetts General Hospital Training School for Nurses. It begins with a discussion of "what it means to be an adult," in which the health attitudes that presumably characterize adulthood are described. Instincts, motivation and determinants of behavior receive attention in two chapters, followed by a discussion of "conflict, adjustment and maladjustment." The central part of the book describes sense organs and their function, neurologic, muscular and glandular factors contributing to the totality of behavior. The learning process is given extensive consideration through three chapters. Sections on the psychology of childhood, of adolescence, of the family and a final chapter on "the nurse as a practical psychologist" conclude the volume.

It is apparent that the authors have intended primarily to help the student nurse understand herself and the behavior of others with a view to developing the maturity described in the first chapter. Without attempting to write a comprehensive textbook of psychology, they constantly have had the student-nurse in mind. There is consistently maintained the somewhat inspirational attitude of teacher-to-student.

The distinct limitations of the book are inherent in the psychology to which the authors adhere, and these limitations are manifest despite the excellent workmanship of the book. The authors ignore or give but scantiest passing notice to the unconscious factors in behavior, with the result that the discussions of conflict, adjustment and maladjustment, as well as the chapters of psychology of childhood and adolescence, are flat and superficial. We cannot attribute this to denial of the existence of such unconscious factors, since in the very incomplete discussion of the mechanism of projection, the authors conclude, "for many people this type of adjustment is quite as unconscious as is the sour grapes mechanism." The tendency is, however, to deal with "conflict" as conflict between conscious conflicting tendencies; whereas so often there is such complete unawareness on the part of the sufferer of the nature of the conflicting impulses that cause suffering, and knowledge of the unconscious mental life is so often necessary for the resolution of conflict.

The tentative attitude of the authors toward a "dynamic" psychology is indicated by the limited presentation of important mental mechanisms. For instance, "identification" defined as "the tendency to reduce the poignancy of one's thwartings by seeing herself in the creditable achievements of others" is interpreted as the equivalent of "day dreaming," and the significant role of the process of identification in the development of the child's emotional life is nowhere discussed. The problem of anxiety and its mastery, particularly in childhood and adolescence, receives but scant passing notice.

Since the book is intended for persons who will deal with sick people, one would judge that there should be some bridge to the problems of the mentally sick people. While it is perfectly in order for the authors to stress mental health, as they do, a mentally healthy attitude toward the problems of mentally sick people is something nurses should be taught. A textbook of psychology for nurses should give some clues as to the nature of mental ill health. A further lack is the much too sketchy discussion of sexual hygiene, in which nurses particularly should be well informed. The chapters on psychology of childhood and adolescence suffer accordingly.

With the limitations noted, nurses will gain much from the book, and teachers of nurses doubtless will welcome it. "Thought problems" and "specific problems in application" are appended to each chapter, to offer exercise of the material presented.

G. J. MOHR, M.D.

(Continued on page 191)

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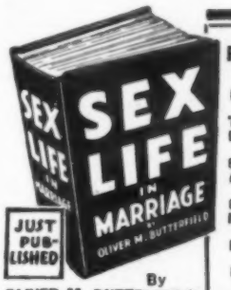

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HEALTHGRAMS

FROM ARTICLES IN THIS ISSUE

¶The advances in medical science during the last two or three decades have given to most of mankind increasing years of life expectancy, freedom from pain, greater assurances of control of some of the most dreaded diseases, constant perfection of hospital facilities and an ever mounting number of discoveries and improvements in methods of diagnosis and treatment. *See page 119*

¶At birth an individual has certain definite possibilities for physical and mental progression depending on the health of his parents and the hereditary potentialities coming from his ancestors. *See page 145*

¶The person who fails to make a go of his marriage finds it far more difficult to achieve success in any other phase of life. *See page 104*

¶It is safe to say that about half of the victims of syphilis do not know that they have the disease or else believe they have recovered from it. *See page 142*

¶Among the general diseases that may affect the retina of the eyeballs are Bright's disease, diabetes, syphilis, high blood pressure and arteriosclerosis. *See page 136*

¶Sleep is never a true problem in any case until the ability to rest is lost. *See page 107*

¶Health and physical education is a way of education most essential today because modern civilization is making it difficult for young boys and girls to live physically well. *See page 128*

¶A good voice is an asset in any kind of occupation. *See page 110*

¶Much can be done to help persons with heart disease and in the milder cases they can be restored to the community as useful members of society, while in the more severe grades, life can often be considerably prolonged in comparative comfort. *See page 139*

¶The postmortem examination not only is a means for advancing medical science but also is a great benefit to humanity in the prolongation of life it makes possible. *See page 103*

¶The financial burden of caring for the cripple must, in most instances, be shifted from the individual family to the community; this is not charity but sound economics if a fair proportion of self supporting individuals emerge. *See page 131*

Wallace W. Kirkland

HOSPITAL BABY

Your precious "president" is protected and cared for here with scientific expertness, say IRMA and GLADYS FUEHR

YOU are lying in your hospital bed, blissfully planning 4 day old Jimmy's future. Suddenly from the hall come infant howls, howls which even in the short period of four days you think you have learned to recognize as Jimmy's. You begin to fret. Why is he crying? It's still half an hour until feeding time.

Of course, in books you have read that all babies cry, that crying is one of their favorite forms of exercise. Nevertheless you are not certain that Jimmy is merely exercising. You wonder why "they" don't do something for him.

As the howls grow lustier and a duet develops, you begin to suspect that he has swallowed a pin at the very least and furthermore that every one in the hospital has forgotten all about son James. By the time the cries cease, you are exhausted.

What does happen to your baby all the time that he is away from you? What do the nurses do when he cries? Why does he cry when he isn't hungry? To the young mother, alone in her room, assailed by a vociferous soprano clamor from the nursery, these are important questions.

In all good hospitals the routine care of the baby is similar. Years of study and observation have developed a process which gives the normal, and even the weak, infant every possible chance. No precaution is omitted. In fact, your baby is much safer there than he is at home, no matter how many aunts, uncles and grandmothers listen for the minutest cry that escapes his lips.

This is what happens to him. As soon as the doctor has cut the cord, the nurse wraps the infant in a soft, warm blanket and drops a 1 per cent solution of silver nitrate into his eyes. This prevents infection, especially gonorrheal, formerly widespread among newborn infants. Then the nurse weighs the child, takes his temperature and records her observations. If the temperature is not normal (98.6 F.), she notifies the doctor immediately. Any other abnormality noted by the nurse is reported. The doctor also checks up to see that everything is perfectly normal.

Next comes the bath of warm mineral oil, which frees the infant from the white, cheesy substance (vernix caseosa) which covers him at birth. A second bath follows, this time with soap and water. In order to prevent loss of heat, some hospitals also use oil for this bath. To ward off impetigo contagiosa, a contagious skin disease to which the newborn infant is highly susceptible, the nurse ends the bath with a rubdown, for which an ointment of ammoniated mercury, 5 per cent, is used. She then cleans the cord with alcohol, puts on a sterile bandage and sews on a binder. With moist cotton she carefully wipes the infant's eyes, ears and nose. A feeding of half an ounce of warm water tops off the process. The baby is now clean, warm, dry, comfortable and satisfied.

The last step before taking the baby to the adoring gaze of his parents is to identify him once and for all. The nurse marks a ribbon with the baby's sex, family name, weight and date of birth, and ties this ribbon around the baby's wrist. Many hospitals also keep a record of the baby's footprint and the mother's thumbprint for further identification. You have heard of babies being given to the wrong parents, cases which newspapers—and grand operas—gloat over; in a modern hospital careful precautions guard against this.

The care which your baby receives on the following days is just as painstaking as the scientific procedure described. The amount which the baby receives in his feeding is always carefully noted by weighing the baby before and after he has been taken to his mother. During the first twenty-four hours the nurse lays him on his right side with the head slightly down, because this is thought to relieve pressure of the liver on the vital organs. Since visitors can see your baby only through the window in

This little food rebel now licks the spoon!

ACCEPTED AMERICAN MEDICAL ASSN

Cradle Baby Jams on his cereals make him eager for every meal!

Cradle Baby Jams are the answer to many a troublesome feeding problem. A spoonful used on everyday cereals makes them highly tempting to youngsters . . . does more than all of mother's coaxing and pleading.

Cradle Baby Jams are recommended for children from eight months to four years of age. Cradle Baby Jams are *strained* and *seedless*, with all the beneficial properties of the fruit retained by vacuum cooking, which preserves the natural mineral salts, food values and delicious flavor. Accepted by the American Medical Association Council on Foods.

With the 6 different varieties of Cradle Baby Jam, mothers can change flavors frequently to avoid monotony. Also recommended for toast and crackers—especially at teething age.

Strained—Seedless—Delicious
Prune • Fig • Grape • Apricot
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CRADLE BABY
Strained and Seedless—
PURE JAMS
MAKE FEEDING PROBLEMS EASIER

the door of the nursery, he is more adequately protected from harmful bacteria than he would be at home. This window also keeps his rest from being disturbed by the fondling of relatives, who frequently love not wisely but too well. Nor does he suffer any interference with his regular routine of feeding, sleeping (which he does approximately twenty hours out of the twenty-four) and diaper wetting. The hospital knows what will make your baby healthy and comfortable and acts accordingly.

And when your baby cries, the nurse can tell whether or not the cry is normal. If it is an ordinary, healthy bawl, it is probably caused by hunger, a wet diaper or a desire for a change of position. When the nurse hears the cry, she does one of three things—or all three: Either she brings him to his mother for food, or she changes his diaper, or she turns him on the other side. Usually the howl which is so heartrending when heard at a hall's distance means only that your child is experiencing discomfort, as he frequently will in the months to follow, and the hospital personnel knows how to cope with infant discomfort.

If your Jimmy yells even though he is comfortable, he is probably feeling the perfectly human urge to do his daily dozen. Aimless kicks and waving of hands are not enough to satisfy the future football captain. He wants action. His lungs need stretching, his muscles need expansion and contraction, and his vocal cords need practice. So let him tell the world if he wants to.

To repeat, if the cry denotes more than discomfort or the desire to exercise, the nurses, who are experienced in judging infant vocalization, will know whether he has the colic; and they will also know what to do about it.

So don't worry when you hear his wail, unless you hear a great deal more than most mothers in the hospital do. Spend your time more profitably deciding whether he is to run for governor first or try for the presidency right away!

QUESTIONS FROM MOTHERS

Gas and Colic

To the Editor:—What would cause a large amount of gas and colic in a baby? T. S., New Jersey.

Answer.—It is difficult to tell without seeing and examining the baby what causes a large amount of gas and colic. In some families it seems to be a family characteristic. Most babies outgrow it when they get to be 3 months or 6 months old. In the meantime, change in the feeding or necessary medical treatment may be advised by the physician.

Weight

To the Editor:—How much should a baby weigh at the end of the first year? How much should he gain each week? M. B., Ohio.

Answer.—A normal baby under ordinary circumstances should weigh twice as much at 6 months as at birth, and three times as much at 1 year as at birth. The weekly gains, however, will vary considerably. Sometimes a baby will gain 8 or 10 ounces in a week and then again only 1 or 2 ounces. As long as there is no loss and the general tendency is upward, there is no need for anxiety.

Abnormal Appetites

To the Editor:—Our child, 2½ years old, has developed the habit of eating hair, which she either pulls out from her head or picks up from her blankets or clothing. How can we cure her of this habit? M. O., Vermont.

Answer.—Abnormal appetites have been noticed in children for many years. The eating of hair and wool is not uncommon. The outlook for recovery from this condition is usually good when the child is under 4 years of age. The general health should be improved; any disease of the intestinal tract should be treated, and parasites should be eliminated; the child should be kept from contact with the substance for which she has a morbid craving and should be kept occupied so that she is kept busy and happy.

BOOKS ON HEALTH

(Continued from page 187)

Health Teaching Activities in Rural Schools, Erie County, New York

Illustrated. Buffalo, N. Y.: Buffalo Tuberculosis Association of Erie County, 1938.

THE editors and contributors to this publication should feel genuine satisfaction in its appearance. The booklet is sound in its outlook and psychologic principles and shows that knowledge was not merely acquired in verbal fashion but put to work. The reader is first given insight into the way in which these teachers in rural schools find the health needs of the children. In this way the most pressing needs in personal, school and community hygiene are discovered. An example of this was the attack made on the common cold. During the winter months so many children were absent because of colds that it seemed desirable to do something to prevent them. In grade 4 the children decided to make a picture story for each one of the topics studied and then put them together in a booklet. The best pictures were then selected to make a large class booklet. Information was gathered from health books, magazines, posters and pamphlets and also from the health officer. As a result certain outcomes followed, such as "Children who had colds stayed at home. Hands were washed under warm, running water, with soap before lunch. Our classroom was well ventilated."

There is a presentation of many other units of work. Although this vital contribution is intended especially for teachers in rural schools it would also be interesting to grade teachers everywhere. J. M. A.

PUBLISHERS' ADDRESSES

The following list contains the addresses of publishers whose books are reviewed in this section:

Association Press, National Council of the Y.M.C.A., 347 Madison Ave., New York.

The Macmillan Company, 60 Fifth Ave., New York.

University of Toronto Press, Toronto, 5, Ontario, Canada.

C. V. Mosby Company, 3523-25 Pine Blvd., St. Louis.

Fanny Sniff, 1174 N. Ardmore Ave., Hollywood, Calif.

W. B. Saunders Company, West Washington Square, Philadelphia.

AND here's the lad who'll swallow the very last drop of his Carnation Milk, heave a contented sigh, and be ready for an all-night sleep.

Master David (full name on request) is a Carnation baby. And doesn't he look it? That well-shaped head, those eager, inquiring eyes, that sturdy "left" —they all complete the picture of *proper nourishment* that is so often seen when the doctor prescribes a Carnation Milk formula.

Irradiated Carnation Milk is just pure whole milk with part of the natural water taken out, so it provides all the nourishment that the best of whole milk can give, *plus* special qualities which baby specialists consider all-important. It is *more readily digestible* than ordinary milk—it forms tiny, flaky curds in the baby's stomach, like those of mothers' milk. And it is enriched by irradiation with "*sunshine*" *vitamin D*, needed to build strong, straight bones and fine, sound teeth.

It is safe milk too. Sealed air-tight, then sterilized, it is absolutely germ-free and perfectly protected. It is uniform in quality, always dependable. It is convenient to use, a boon when traveling, and a wonderful simplifier of the daily task of preparing the feeding formula.

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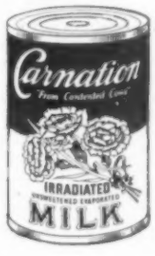

Medical News OF THE MONTH

Annual Session

Recent committee reports indicate that the annual session of the American Medical Association, to be held in St. Louis, May 15-19 inclusive, will bring before the medical profession of this country many of the amazing developments in scientific medicine which have attracted attention during the last year.

Such topics as the new uses of sulfanilamide and its derivatives, the new work on the vitamins including the uses of nicotinic acid and vitamin K and the vitamin B complex, the progress that has been made in the treatment of pneumonia, and recent investigations on the endocrine glands will be conspicuous features of the program.

Value of Plastic Surgery

Physical deformities, both natal and acquired, have such a far-reaching effect on the future mental health of the growing child that when possible they should be corrected before school age, Claire L. Straith, M.D., and E. Hoyt De Kleine, M.D., Detroit, declared in *The Journal of the American Medical Association* recently.

Harelip can and should be corrected immediately after birth—the first seven days of life. The advantages of such an early repair are that both the lip and the bony structure then have a better chance of developing normally; local anesthesia at this early period is safer, and parents are spared months of heartache and embarrassment.

Cleft palate should be repaired surgically only after the infant is from 18 to 24 months of age. It is at about the age of 2 that children begin to talk, and even after satisfactory repair of the palate these children require patient and prolonged speech instruction to insure a speaking voice without a defect.

Plastic surgery for the legs or abdomen must be delayed until the child passes the diaper stage because of the danger of infection.

The use of adhesive tape never corrects lop ears and should never be advised because of the false hope it gives the parents and the child. Deformities of the nose should be corrected during the early teens even though a second plastic operation may be necessary. It is during the teens that self consciousness of a deformity can result in definitely warped personality changes.

In instances in which correction of a deformity is not possible during childhood the victim should be conditioned, through training, for the period leading up to the correction as well as for the operation itself.

Reduces 239 Pounds by Diet

A woman reduced her weight from 395½ to 156½ pounds in twenty months on a diet prescribed by James J. Short, M.D., New York, he reported recently in *The Journal of the American Medical Association.*

The patient's obesity was simply the result of overnutrition, as no glandular disturbance could be elicited.

Most People Have Stomach Ulcers

Most people, without knowing it, are constantly having ulcers of the stomach which naturally repair themselves, H. E. Robertson, M.D., Rochester, Minn., points out in a recent issue of *The Journal of the American Medical Association.*

These ulcers are the result of hemorrhages from the minute vessels of the mucous membranes of the stomach. Such hemorrhages take place because of food and drink intemperances, poisons, local infections, fevers, anemias and emotional disturbances.

In most instances, the cycle involves hemorrhage followed by death of the affected tissue, that is promptly digested by the juices of the stomach, leaving an ulcer which usually is repaired naturally.

However, when complete healing does not take place a lesion remains which develops into chronic ulcer. The causes of such failure of the stomach to repair the ulcer are as yet not fully determined by medical science.

Removal of Hair

Electrolysis is the only method for safe and permanent removal of unwanted hairs or abnormal growths of hair on various parts of the body, Anthony C. Cipollaro, M.D., New York, declares in an article, published by the Council on Physical Therapy in a recent issue of the Association's *Journal.*

Equine Encephalomyelitis

The horse, according to a recent report, has only a minor part in the spread of equine encephalomyelitis (inflammation of the brain and spinal cord), it being suggested that the main proliferation and dissemination are by migratory birds, *The Journal of the American Medical Association* said in an editorial recently.

Action of Sulfanilamide

The effectiveness of sulfanilamide in the treatment of certain diseases is due to its weakening of the invasive capacity of microorganisms, John S. Lockwood, M.D., Philadelphia, Alvin F. Coburn, M.D., and Herbert E. Stokinger, Ph.D., New York, declared in a recent issue of *The Journal of the American Medical Association.*

Books May Transmit Disease

Although communicable diseases are transmitted mainly by persons rather than by inanimate objects, books that have been handled recently by patients suffering from smallpox, scarlet fever or diphtheria may transmit such infections to susceptible persons, *The Journal of the American Medical Association* said in a recent issue.